

Clinical Medicine and Surgery

GEORGE B. LAKE, M.D., Editor

Editorial Staff

Frank Thomas Woodbury, B.A., M.D.

Joseph E. G. Waddington, M.D., C.M.

W. A. N. Dorland, A.M., M.D., F.A.C.S.

M. J. Hubeny, M.D., F.A.C.P., F.A.C.R.

Gentz Perry, M.S., M.D., F.A.C.R.

Ralph L. Gorrell, B.S.M., M.D., D.N.B.

H. J. Achard, M.D.

★ Editorial ★

Dr. Wilfred T. Grenfell

Healer of Bodies and Souls

PRACTICALLY all physicians are more or less (generally more) selfless workers, who give much of their time, energy, and knowledge to poor and suffering people without expecting any material compensation. Many of them have performed their ministrations under conditions entailing personal physical hardships, and some still do so. But the man who has spent all of his long professional life in all of these ways is nearly, if not quite, unique.

On February 28, 1865, a baby boy was born, at Mostyn House, Parkgate, England, who (though nobody suspected it) was to live such a life, and equally to the astonishment of everyone (the hero of the tale most of all), was to become one of the most famous medical men of his generation. The family name was Grenfell, and they christened him Wilfred Thomason.

Young Wilfred took his elementary schooling like other boys of his class and time, and pursued his academic studies at Marlborough College, Oxford University. When that stage was finished, he entered upon his preparation for the medical profession at London Hospital, where he was house surgeon in 1890 and '91.

In 1889, while still a medical student, he became interested in the mission work among seafaring men, and entered the medical service of the Royal National Mission to Fishermen, in which capacity he established homes for the homeless ones, on land, and fitted out the first hospital ship for the North Sea fisheries.

When this tough and sturdy little crusader really got into his stride, in 1892, he looked around for a *hard* job that needed doing, and decided that Labrador was the place that needed him—and he

was right! That arid, mountainous, inhospitable, practically arctic land had (and still has) about 4,000 year-round inhabitants (including about 1,000 Eskimos), living under the most deplorable conditions of poverty and hardship (the man who earned \$500 a year was considered a plutocrat), *without one doctor* to care for their sick and wounded. Here was a man's-size job! And Dr. Grenfell was a *man*.

In addition to preaching the gospel on Sundays (the Doctor is a devout Christian, who *practices what he preaches*), he established a small hospital, where the more severe cases could be treated, and then set out in his little boat, the *Albert*, to cruise along the 1,500 miles of rugged coastline (where most of the people live, because the interior is so bleak and devoid of transportation facilities), stopping at each settlement to minister to the bodies and souls of the sick ones. The worst cases were sent back to the hospital. On that first cruise he treated 900 patients, whom he could not see again until the next summer. Most of the people were suffering with the effects of malnutrition—*beri beri*, scurvy, tuberculosis, and *rickets*. And they were shipping tons of codfish to other places every year!

The story of the dangers, hardships, privations, and incredible labors undergone by this staunch and indefatigable soul would fill volumes. In fact, they *have* filled the dozen or two books that Dr. Grenfell has written, and we can be sure that he has not told half of the tale, for he is an incurably modest man. Today there are four good and well equipped hospitals in the bailiwick where he has been, for more than forty years, physician,

preacher, magistrate, counsellor, and friend to all the people (including the one at St. Anthony, Newfoundland, which is a fine, up-to-date institution of 60 beds); six boats serve the people along the coast, and each hospital station has a motor yawl for "ambulance" service; eight nursing stations, about 150 miles apart, supplement the work of the hospitals; and then there are a number of schools, orphanages, industrial centers, co-operative stores, and various other social and cultural projects, for all of which this remarkable man is responsible.

At first he worked alone, with the help of a few hardy and earnest ones who had been inspired by his personal example, but as knowledge of the magnificent service he was rendering gradually spread, the International Grenfell Association was organized, to finance and otherwise assist in his undertakings, and the Doctor was made its superintendent. Today he has many eager part-time helpers, from the United States and from England.

During the World War, Dr. Grenfell took time out to serve, as a major, with the Harvard Surgical Unit.

Fortunately, he has received, during his lifetime, a part of the recognition he has so thoroughly earned. Besides the long list of honorary degrees which have been conferred upon him by various institutions of learning, in this country and in England, he received the gold medal of the National Society of Social Sciences of America in 1920; was knighted by King George V in 1927; was elected Rector of St. Andrews University, Scotland, in 1928; and has been given other public tokens of respect and esteem.

But all these honors have not gone to his head in the least. Though somewhat stouter and slightly more grizzled than he was when the picture accompanying this sketch was taken (about ten years ago), he is still the same unassuming, sincere, unflinching cheerful, and untiringly energetic man he has always been. And when he passes from the scene of his astounding labors, he will wish to be remembered simply as "Dr. Grenfell, of the Labrador."

The measure of a man is not the number of his servants, but the number of people he serves.—Dr. PAUL D. MOODY.

Use Your Camera

PRACTICALLY everybody has a camera of some sort, these days, but too few physicians appear to use theirs in the fascinating, important, and highly profitable practice of *clinical photography*.

Every patient who has a visible lesion on the surface of the body should have it photographed at the first consultation, and from time to time as treatment proceeds, including one when he is discharged. Thus the doctor has a permanent and incontrovertible record of the success of his therapeutic efforts. Cameras are now available, at a relatively reasonable price, which will photograph any part of the body which can be visually ex-

plored by direct endoscopy, thus greatly widening the field in which this type of records can be made.

Such records will not only protect the physician from malpractice suits, aid in the collection of difficult accounts, and make his case histories far more valuable, but these photographs can also be used to illustrate the articles which he may and should write, and will make them immeasurably more interesting and helpful to the readers.

We want articles with pictures—both photographs and diagrammatic drawings. With a little practice, satisfactory pictures can be made, even with a Brownie camera (better instruments do better work, of course), with the aid of inexpensive flash-light bulbs or a photographer's flood lamp which, in the long run, may prove cheaper and more satisfactory than the flash bulbs.

As for drawings and diagrams, almost any medical man can make a reasonably presentable sketch if he tries, or if not, has some friend who possesses sufficient artistic skill to do so. For reproduction purposes, these drawings should be made on substantial white paper with black India ink.

Use your camera and your pencil and pen to make permanent records in *every case* which can be graphically recorded. And when you write an article for us, send with it copies of these photographs and drawings. They will make your paper much more acceptable, to us and to our readers.

Opportunity is not always spelled with a capital O.—
W. J. CAMERON.

Gonad Extracts in Cancer

THE big endowed foundations and other semi-public agencies for the study of cancer are very much in the limelight of late, and are, no doubt, doing valuable work, but not *all* of the significant work along this line which is being carried on in this country. A considerable number of independent and sincere investigators, who are using their own money to carry on their researches, have obtained results which, while they may not be conclusive, are decidedly *significant*, but are limited in scope by the lack of finances and recognition which *could*, we believe, wisely and profitably be given them by the highly publicized research institutions (some of which are, at least partly, supported by taxpayers' money), but *are not*.

Among these privately conducted clinical research projects, there is one which has been worked upon, entirely independently, by at least three men, all of whom have obtained results which are definitely worthy of notice and of further intensive study. This is the use of gonad extracts in the treatment of cancer.

In the May, 1938, issue of CLINICAL MEDICINE AND SURGERY (page 202), Dr. Beaumont S. Cornell, of Fort Wayne, Ind., reported the results of treating 60 cancer patients with extracts of whole gonads, administered heterosexually, by intramuscular injection, over a period of six months. While

making no claims of definite cures, he found that, in *all* cases so treated, there was prompt and positive relief of pain and inhibition of metastases; and, in 55 of the cases (91.6 percent), regression of the tumor occurred, to the extent of from 10 to 90 percent, and was maintained as long as the treatment was continued.

In 1934, Dr. Walter L. Voegtlin, of Seattle, Wash., who was then an undergraduate, did some research work in the department of physiology and the tumor clinic at Northwestern University, the results of which were deemed of sufficient importance to warrant filing a report of them with the American College of Surgeons, for record. However, the authorities under whose direction the work was done have refused permission for the publication of this report, as they have a perfect right to do, since it was of a preliminary nature and, so far, has not been followed up.

In outline, Dr. Voegtlin treated five cases (2 in men and 3 in women) of proved cancer with deep intramuscular injections of *human semen*, using the entire ejaculate (from 2 to 6 cc.), with 1 cc. of hexylresorcinol, at each dose, whenever it was available. The intervals between injections varied from 3 days to a week.

Man No. 1 had carcinoma of the colon and showed "general improvement," but was lost track of before adequate treatment had been given.

Man No. 2 had carcinoma of the stomach with

extensive metastases, from which he died after receiving 12 injections of semen. Meantime, after the sixth injection, the tumor mass showed a progressive and measurable decrease in size; and in a specimen removed at autopsy, the number of histologic mitotic figures was extremely small and the amount of fibrous stroma unusually large.

Woman No. 1 had a histologically proved and very extensive carcinoma of the tongue (the entire organ was destroyed), with metastases in the neck. She received 15 injections of semen in 8 weeks, and was "much improved"—the tumor and metastases decreased in size and her general condition was decidedly better. She was not cured, but died of a terminal, intercurrent disease.

Woman No. 2, with cancer of the breast, developed an abscess following one of the early injections and refused further treatment.

Woman No. 3 also had cancer of the breast, with metastases in the auxiliary glands, skin, and lungs; was practically moribund when first seen; and died following the fifth injection.

Obviously there is nothing conclusive about these findings; but in the two cases which were *really treated* (man No. 2 and woman No. 1), the results were, to say the least, *suggestive*.

The foregoing comments are made as a background for and an introduction to the article by Dr. William H. Lewis, which appears in this issue and will speak for itself.

NEXT MONTH

Dr. D. W. Shumaker, of Dover, Ohio, will discuss traumatic kidney lesions and describe, in detail and with diagrams, his new nephropexy operation.

Dr. Russell A. Winters, of Chicago, will explain the mechanism of ventral hernias (which are far more common than most physicians realize), and outline their treatment, with diagrams.

Dr. Archibald L. Hoyne, of Chicago, will show the importance of contagious diseases to the specialist.

COMING SOON

"Cancer of the Rectum as seen by the General Practitioner," by Charles J. Drueck, M.D., F.A.C.S., Chicago, Ill.

"The Injection Treatment of Hemorrhoids," by James K. Anderson, M.D., Minneapolis, Minn.



Photo by G. B. L.

SUMMER AFTERNOON

* Leading Articles *

Gonad Extracts in Cancer*

(A Preliminary Report)

By

WILLIAM H. LEWIS, M.D., Rome, Ga.

A "cure for cancer" is being eagerly sought, but has not yet been found. However, a high percentage of cancers, if diagnosed early, can be cured, and even if a cure is impossible, many patients can be relieved of pain without morphine and their condition otherwise improved. Dr. Lewis presents his experience with a method that offers definite promise.

THE data I am about to present are submitted as a preliminary report upon an approach to the cancer problem which I initiated in 1935. Its only present value lies in the possibility that it may stimulate thought and additional investigation, which may prove of more positive benefit in what is probably the greatest single health problem which we have today.

I shall first present the hypothesis upon which the experiments were based.

For many years I had felt that the cause of cancer lay in a lack of some central cellular control, as there is a distinct analogy between cancer and diabetes. The younger the victims, the more active is the disease, and vice versa; the broad age grouping is similar; if we lessen the load (as by diet) in diabetes, or remove an operable lesion in cancer, the body resumes a normal balance. This suggests a cellular control. The aberrant cell may become such by external irritation or internal freak. Against such a cell, a competent control may prevail, but a violent cell change or inadequate control breaches the law and riot occurs.

In searching for a control center—and there may be a group of them—I began with the ovum and the spermatozoon. From the union of these comes the fetus, the miracle of cell development and control. In these two cells must be the inherent total controls of the entire organism. I began with the spermatid alone, which gave the most spectacular result of all, but was unable to continue with it because, after death, the seminal vesicles of the bulls had apparently contracted and most of the fluid was lost. Obviously, the ovum was not obtainable.

Preparation and Administration

Reasoning that the ovary and testicle should possess some of the properties of their products, I used these organs (from cattle) in all of the subsequent experiments. Realizing that this was a primary experiment, I suspected that chemical treatment of these tissues, delay in preparation, or gross changes of temperature might destroy the vital element which was sought. Hence the organs were

used as soon as they were removed from the animals, and under aseptic precautions, macerated, the gross tissue juices expressed, the evident solid debris thrown out of the solution by the centrifuge, and the resulting serum injected intramuscularly, generally in the arms, in amounts of from 1 to 5 cc., generally upon alternate days. The fluids obtained from ovaries and testicles were mixed in equal parts, by volume, and the combined fluid was used in all cases.

These solutions were cultured and, in occasional instances, non-pathogenic organisms were found. They were generally sterile. Most patients had little or no local reactions; some reactions corresponded to those of typhoid inoculations; and, in the early work, several arms suppurated and had to be drained. Improved technic avoided all complications in the later groups. There were no more than five patients who had any significant general discomfort, and all difficulty was transient. As a general rule the serum reached the patient within four hours of the death of the animal. There were 28 patients, with various sites and degrees of malignancy; none were early cases. About 240 injections were given.

In several patients no reasonable observations could be made, as they did not report regularly, did not receive more than a few injections, or otherwise did not cooperate. Below are given the gross case reports of a few which were characteristic. The diagnoses in cases Nos. 2, 4, 5, 6, and 7 were confirmed by microscopic sections.

Case Reports

Case 1: Mrs. G. B. D., age 45 years; first seen November 9, 1935. For two years there had been a constant, bloody vaginal discharge. In the past few months there had been severe bladder distress. She had lost thirty pounds in weight, had not slept for months, because of pelvic pain, and had been taking anodynes and opiates.

Examination showed a proliferative, fixed mass obliterating the cervix and extending into the tissues, palpable from above in the right pelvis, and bleeding profusely when disturbed.

Upon that afternoon (November 9) the patient received 0.5 cc. of *semen* of the bull. The bleeding ceased by morning and she slept the second night without medications. On November 11 and 16 she was given the same dose. Upon the latter date the mass was much softer. On November 20, 22, 25, and 27, no more than 0.2 cc. of *semen* was given; and then, on November 29 and December 2 the serum I have described was used.

From November 26 to 30, the patient had what

*Received for publication January 24, 1940.

she described as a normal menstrual period. There had been no pain since the first day, and she had slept comfortably every night. The pelvic mass had disappeared and the growth was reduced to a cervical collar.

Up to December 18, she had 6 injections of serum, accompanied by 0.2 cc. of semen. At the end of this time, a cervical area about 2 cm. in diameter remained unchanged. On December 18, 2 cc. of serum was injected directly into this area, which resulted in a sharp reaction, severe bleeding, pain, and fever. During the next ten days the mass grew rapidly and, as no more bulls were available, the treatment was discontinued and radium and x-rays were employed. Within three months the patient died.

The results in this case were more dramatic than in any of the others. It was the only case in which semen was employed.

Case 2: Mrs. A. C. V., age, 57 years, had been bleeding for six months. *Examination* showed a proliferating area on the cervix, into which needles of radium had been inserted on February 20, 1935.

On August 14, 1936, she returned with a greatly enlarged, fixed uterus, from which much debris had been curetted, and 50 milligrams of radium were inserted for 24 hours. The patient continued to have severe abdominal pain, requiring opiates, and some diarrhea over the succeeding weeks, and lost weight and strength progressively, being bedridden and emaciated.

On September 15, she was given 2 cc. of equal parts of the solutions of ovary and testicle; on the 17th and 19th, 5 cc. were given; and on the 21st and 23d, 10 cc. each time.

Within 24 hours there was relief and a sense of comfort; vomiting and diarrhea very largely ceased; and she was dismissed on September 23. Within the next ten days a cold abscess upon each arm was opened. She continued to be comfortable, as far as the abdomen was concerned, and examination on November 10 showed nothing of significance in the abdomen or pelvis, except that the uterus was not completely free. There was no discharge, the patient had had no pain since the first treatment, the appetite was hearty, and she was up and about the house. She regarded herself as completely well. The patient was seen at intervals and appeared to be in perfect health and with a normal pelvis.

On October 10, 1938, she presented herself with a report of slight bleeding for a few days. The fundus was moderately larger, and radium was employed.

This patient was apparently moribund when this treatment was begun. Radium and x-rays had been used, without avail. Within one week of the first dose of serum, all distress disappeared and for 24 months there was no sign of recurrence. In this case the largest doses of serum were used—as high as 10 cc.—which is significant.

Case 3: Mrs. B. L. L., age, 42 years, suffering from bronchogenic carcinoma with involved mediastinal glands, dating since the fall of 1936, complained of severe cough and dyspnea on slight exertion and at night. She had been unable to tolerate x-ray treatment.

On July 28, 1937, I began the use of serum. Between that date and August 4 she received 5 injections, which were discontinued because of local reactions. The cough became progressively

less and, by early September, was only moderately troublesome. She slept well, gained weight, was active about town, and appeared to be in perfect health, but repeated x-ray studies showed no appreciable change within the chest until after April, 1938. Between that date and July 7, no x-ray study was made, but during this time the cough and dyspnea returned, and a film then showed extensive involvement of the right lung, with fluid. Distress was acute.

Injections were given on July 27, 28, and 30. After the 28th, she slept all night and the cough practically disappeared, as well as the evidence of cervical pressure. Further injections were given on August 1, 3, and 5. On August 8 and 9, 1000 cc. of blood-stained fluid were withdrawn from her chest each day. On August 16 the fluid recurred, up to mid-scapula, but on the 22nd, it had practically disappeared. During this time the cough was rare and the patient was very comfortable.

On August 28, a film showed a decrease of 1 cm. in the diameter of the mediastinal mass, and no appreciable fluid. Between that date and September 20, the patient received 6 injections of serum. Following this, the growth progressed rapidly and the patient died October 29.

This case of pulmonary and mediastinal carcinoma remained stationary for ten months, by x-ray evidence, and the patient experienced almost complete clinical relief during that time. During an intense recurrence, the serum checked the distress and produced a recession of the growth and absorption of the fluid for a period of almost two months.

*Case 4:** Mrs. C. L. M., age, 45 years, had a malignant ovarian cyst removed on December 8, 1936. On December 14, 16, and 18, 1936, and January 10, 12, and 14, 1937, she was given serum injections.

This patient reported at intervals, was given no x-ray treatment, and remained entirely comfortable and active, with no evidence of recurrence, until July 28, 1937, when enlargement, suggesting involvement of the spleen, appeared. Her pelvis was grossly negative, although there was a slight, blood-stained discharge.

On July 28 and 30, and August 2, and 4, serum injections were given. On September 5, recurrence in pelvis was evident. X-Ray treatments were then instituted, without effect.

*Case 5:** Mrs. C. W., age, 56 years. On November 11, 1936, a malignant ovarian cyst was removed and x-ray treatment instituted at once. No serum was given. Extensive pelvic and abdominal recurrence appeared in April, 1937. By July, she had been confined to bed for weeks, with pain and persistent vomiting.

On July 28 and 30, and August 2, serum injections were given. She ate a good dinner on August 2, and walked two city blocks. Pain and vomiting disappeared. By August 30, the abdominal mass was movable and the patient was up a large part of the time and felt well. Her abdomen was flat.

On September 2, 9, and 15, she received in-

*Cases 4 and 5 are interesting parallels, as the same type and extent of tumor was present in both. Number 4, with serum and no x-ray treatment, was clinically relieved for six months. Number 5, with x-ray treatment and no serum, recurred extensively in four months, and then experienced surprising improvement at once, when serum was employed.

jections. On the latter date the patient went downtown shopping. No further serum was used and the mass recurred, the patient dying within two months.

Case 6: Mrs. J. C. P., age, 72 years, showed extensive bone metastasis following a breast amputation, and was confined to bed with much pain, requiring opiates.

On September 2, 6, 9, 16, 23, and 30, 1937, she was given injections of serum. After the second injection all pain disappeared and the patient continued to "feel fine" for several weeks.

Case 7: Mrs. R., age, 68 years, presented an extensive carcinoma of the scalp of the entire right parietal and frontal area, invading the orbit. The lesion was heavily crusted, bled constantly, pain prevented sleep, and vision in the right eye was reduced to counting fingers.

On July 27 and 28, 1938, serum injections were given, with complete cessation of bleeding and pain. On July 29, 30, and August 1, she received injections. The crusts disappeared, and the margins of the ulcer were clean, except along the right supra-orbital ridge.

Injections were given on August 2, 8, 12, 28, September 1, 5, 9, 12, 16, and 23. On September 9 she could read ordinary print. Treatments were then discontinued and in two weeks the condition was practically the same as at the start.

Case 8: Mrs. E. S. M., age, 50 years, on June 16, 1938, was given an intrauterine radium treatment for extensive, necrotic malignant disease. Increasing prostration and pain continued.

The patient returned to the hospital July 26, prostrated. Her hemoglobin was 43 percent and the red-cell count, 2,800,000.

Injections of serum were given July 26, 27, 28, 29, August 1, 2, and 3. On August 22 her physician reported what he regarded as extraordinary improvement, and said that she had gone to a ball game the night before.

On August 28 a pelvic examination was negative. On that day, and on September 1 and 5, she received serum injections.

On December 19, 1938, there was no disturbance and a pelvic examination was entirely negative. The patient did not return for further study.

Case 9: Miss T. R., age, 68 years, had a massive carcinoma of the breast, open for a diameter of two inches, with bleeding and pain. She was in bed, on account of weakness.

Between August 28, 1938, and September 23, she was given 8 injections of serum, 3 cc. each. After the third injection, bleeding and pain ceased. When seen on December 15, 1938, she was out of bed, eating. There was no pain or bleeding and the mass was stationary in appearance. She has had no other treatment. In January, 1940, there was no change in condition.

The cases described are quite typical of the reactions and results in all the cases I have treated by this method.

Comments and Suggestions

In a series of 28 cases there has uniformly been a modification of the malignant process; a recession or arrest of the growth; and relief of pain and bleeding, when present. These results have occurred contrary to the expected course of the disease and generally not associated with any other treatment.

It has appeared that the more recent areas of growth or extension have been the ones which were most readily affected. What may be termed the primary areas remained resistant, and in no instance did they clear up entirely.

The one case in which semen was used showed the most rapid and complete improvement.

After the cessation of treatment and recurrence of activity, all new growths seemed to progress more rapidly than usual.

The material used has been crude. No effort was made to concentrate or extract the gonadal fluids.

The results obtained suggest that a potent element exists in the ovary and testicle, which affects malignant neoplasms. If this element can be isolated and employed in adequate and constant doses, as Insulin is used in diabetes, corresponding results may possibly be obtained in the treatment of malignant disease.

Should this hypothesis prove to be correct, sources of material might be found in eggs or fetuses, and it is not inconceivable that other organs or glands may possess similar properties. The spleen is a large organ with an extraordinary blood influx, whose functions have not yet been fully determined. Possibly its chief function may be a cellular control.

I have been unable to work upon this task for the past two years, but am now undertaking to refine the solution, with the cooperation of a biochemist.

West Building.

SKEPTICISM AND REASON

Do not believe in what you have heard; do not believe in tradition, because it has been handed down for generations; do not believe in anything merely because it is renowned and spoken of by many; do not believe in conjectures; do not believe in that to which you have grown attached by habit; do not believe merely the authority of your teachers and elders; but observe and analyze everything, and when the result agrees with reason, then accept it and live according to it.—BUDDHA.

FULL PAYMENT

There is a third silent party to all our bargains. The nature and soul of things takes on itself the guarantee of the fulfilment of every contract, so that honest service cannot come to loss. If you serve an ungrateful master, serve him the more. Put God in your debt. Every stroke shall be repaid. The longer the payment is withholden, the better for you; for compound interest on compound interest is the rate and usage of this exchequer.—EMERSON.

Medical Writing

By

GEORGE B. LAKE, M.D., Waukegan, Ill.

Almost everybody would like to write, if he thought he could; and all medical men ought to write, but many fail to do so because they lack knowledge of the necessary technic, which Dr. Lake supplies in this article.

THERE are two general reasons why every physician should do medical writing regularly and consistently: For his own benefit and for that of his professional brethren. The research, study, and accuracy in keeping records which are necessary for the preparation of a medical article will augment and consolidate the knowledge of the writer; and the publication of his writings will make his name and his work known all over the country, especially to men who are working along the same lines; while the information he conveys will benefit those who read it.

Every man who has practiced medicine even a few years has had some experiences which are peculiar to himself and has worked out methods or arrived at conclusions which represent individual reactions to the fund of information which is common to all studious and thoughtful physicians. The profession is entitled to be put in possession of this knowledge.

The only way in which one can learn to write is to *write*. Intelligent and thoughtful practice (please note the adjectives!) brings perfection in any line of human activity. So, if you would write clearly and easily, you must write *voluminously*.

A good way to obtain satisfactory practice in medical writing is to write up your ordinary, every-day cases *in full detail*, as if they were the rarest and most interesting conditions in the world and you were preparing reports for publication. From these reports, two beneficial results will ensue: In the first place, you will develop facility in expressing your ideas; and in addition to this, perhaps somewhat to your surprise, you will find that you are gaining a grasp and insight into the conditions of your patient which you never had before. This comes from making the detailed study which is necessary to the successful presentation of a clinical case.

In connection with all this preliminary practice writing, you should *criticize your work very carefully*, resorting frequently to the dictionary for spelling and to your grammar and rhetoric in order to verify your English construction. Unless this is done, real progress will be very slow. An edifice of any size must rest upon a firm foundation.

Choosing a Subject

Having come to a decision to publish some of your observations, the first thing is to assure yourself that you actually have something interesting and valuable to say. This does not necessarily mean that it must be something which has never been said before. If you have actually made original observations and have something entirely new to present to the profession, the form in which you present it is of less vital importance, because the outstanding nature of your matter will overshadow many imperfections in your manner, but every ar-

ticle is the better for being carefully written. If, however, nothing were to appear in the medical journals except the new and astonishing results of original investigation, many of these publications would have to go out of business within the next six months, because the proportion of original research matter contained in most of them is comparatively small.

The basic truths and interesting facts of the science and art of medicine not only bear repetition, they *require* it, and there is a large and useful field in current medical literature for adequate summaries of knowledge along various practical lines; for reports of rare and interesting cases, or of new suggestions for the diagnosis and treatment of the ordinary diseases; and for the setting forth of individual opinions on matters of general interest to the profession.

If you purpose writing a summary or review of the literature along some particular line, be sure that you have really *covered the ground* with reasonable thoroughness. Look up your references carefully, then *correlate and arrange them*, to satisfy yourself that you have grasped the important points in the various articles you have consulted. After this pick-and-shovel work, you are ready to start writing, and your article should be as brief as is compatible with reasonable completeness. *Both* of these desirable attributes must be kept constantly in mind.

If you are reporting a case, or series of cases, be sure that each one has been worked out as completely as you are able to prepare it, utilizing, of course, such assistance as you will gain from the various laboratories, but remembering that *no laboratory can make a complete diagnosis for you*. Then present *all of the pertinent facts*, including full details of doses and frequency of administration of any drugs prescribed and all essential points as to the technic and methods employed, and, having done so, conclude by making such comments upon them as will draw attention to the important points in your report.

If you are reporting upon original investigations, your article should begin with a *brief statement of the thing you set out to discover or demonstrate*. Following this should be a detailed résumé of the various steps in your investigation and the results obtained at each step; and, finally, a summary of the total end-result of your labors and a statement of the conclusions which may logically be drawn from the facts observed.

Whether you ever intend to write or not (but especially if you are an actual or prospective writer) the "*note book habit*" should be acquired. Ideas come to all of us at odd moments and, unless *immediately* jotted down, are frequently gone again very soon, never to return. A small blank book, always in the pocket, will serve as a convenient receptacle for these notes, and one who has not followed this practice will be astonished at the amount of really valuable material which will thus accumulate in a short time. Here will be found the stuff of which many worthy medical articles can be made.

The Rough Draft

Having now in your possession a reasonable degree of skill in the manipulation of the English language, and the material, all thoroughly coordinated and digested, for the article you intend to write, so that after much thinking you really *know what you are going to say*, sit down, *alone*, with some hours' time at your disposal, with plenty of paper and a handful of good, sharp pencils. If you are able to think at the typewriter, or to dictate clearly and coherently to a stenographer, you may save yourself a certain amount of labor and time by using these methods, but most men who do comparatively little writing usually are wise to make the first draft with a pencil.

Please bear in mind that the suggestions here outlined are merely *suggestions*. Every man will, with experience, develop his own method of procedure which, if it produces satisfactory results, will prove best adapted to the work in hand.

In starting your article, *begin at the beginning*. This may sound like foolishness to some, but if you could see the number of articles which arrive in the editorial office of a medical journal, whose authors have taken it for granted that we are sufficiently clairvoyant to comprehend all of their preliminary mental processes and have, on that supposition, begun their articles in the middle, you would realize the importance of this suggestion. Begin then, I say, at the *very beginning*, and carry your story through, with *absolute completeness*, to the *very end*. Neglect no detail, no matter how unimportant it may seem to you, but set down *everything you know* about the subject in hand, in as clear and orderly a manner as you are able. If you do this part of the work properly, you will find that you have covered a great many sheets of paper.

You now have the *raw material* for making a medical article. Set it aside for two or three days to "cool," and then start working at it. Such a rough draft is by no means a finished piece of work and no talk, given more or less extemporaneously, is by any means fit to publish as it is. To give an example of this, I once spoke before a group of physicians, and this talk was reported, verbatim, by a stenographer. The typed transcription of those notes covered *nineteen pages*. When the article was ready for publication, it had been reduced to *six and one-half pages*.

Cutting and Polishing

When you are ready to take up your original draft of the article in earnest, begin again at the beginning of what you have written and read *each sentence and paragraph* carefully and thoughtfully, and as you do so, run your pencil through every word, phrase, and sentence which does not carry you forward to some degree in your progress toward the goal you have set for yourself. This does *not* mean, however, that you should strike out words which are necessary to make good English and sound sense. Some writers feel that they are gaining something by eliminating most of the articles, adjectives, and prepositions. This is a false idea. Every sentence should be accurate English and make complete sense in itself and should be logically related to the preceding and succeeding sentence. It is only the *nonessential* words, phrases, and paragraphs which should be eliminated, such as personal particulars and reminiscences having no real bearing upon the subject in hand. The paper

should now be set aside again for another few days of rest.

Upon your second reading of the paper, watch carefully for mistakes in spelling, English, and punctuation, and for ambiguous or "fuzzy" statements of all sorts. Rearrange your words and sentences, or even your paragraphs, so as to present your idea in the best possible form. Check your facts and figures and *make sure of their accuracy*.

After these two readings, if you have done your work thoroughly, the article should be ready for the first tentative typewritten draft, and this should be made in duplicate so that you can do your subsequent polishing on the carbon copy and then, if the changes made are not too extensive, they can be worked in on the original without recopying the entire article. This recopying, however, may prove to be necessary. When you are ready to make your final copy, which is to go to the editor, you should also retain a carbon copy of this, for your own personal files.

The title should be *carefully thought out*, so that, *when included in an index*, it will give a definite idea of the material contained in the article. It should contain as few words as possible to give this information. If more elaboration is required, it may fittingly be placed in a subtitle. The title should be typed about an inch from the top edge of the first sheet, in capital letters, with subtitles, in capitals and small letters, below it. If the paper has been read before some medical society before its publication, this fact should be indicated at the bottom of the first page, referred to by an asterisk at the end of the title, and should set forth the full name of the organization before which the paper was read and the day when this took place.

Next following the title should come the "by-line"—your name, just as you wish it to appear, with your various titles and the name of your city. Below this should appear your various teaching and hospital connections. This information is valuable in determining your status in the mind of the reader. A few dashes should separate this material from the body of the article.

Technical Details

The article itself should be written on white paper of good quality and of standard letter size (8½ x 11 inches), with double or triple spacing and with margins of an inch or more at each side, so as to allow room for editorial notations. Great care should be given to spelling, punctuation, and paragraphing. If you are making a number of bibliographic references, these should be indicated by Arabic numbers, raised slightly above the line (not in parentheses) and run in one numerical series throughout the article. Footnotes should be indicated by an asterisk and written in at the bottom of the page on which they appear, with a line of dashes separating them from the article. Foreign words, and anything else which is to be printed in *italics*, should be underlined.

If your article is to contain tables, they should be embodied in the pages of the text, unless they are voluminous, in which case they should be made on separate sheets. Tables and graphs (curves) are very helpful, in some cases, but can readily be overdone. Parenthetical references, *in the text*, should call attention to the tables, by number, at the point where their study will prove of interest.

If pictures or diagrams are to appear in the article, each one should be clearly numbered on the back, and on a *separate sheet of paper* should ap-

pear the legends which are to be printed under each cut, numbered serially to correspond with the numbers on the pictures. Photographs to illustrate your article should be clear and bright and printed on glossy paper. If there are to be drawings, these should be made, by someone who knows how to draw, with black ink on firm-textured, white paper, and should include no lettering except index numbers or figures referring to the legend. Clinical charts are frequently printed with red or blue lines. These will not reproduce in a cut and must be drawn over in black. If any remarks are made on the face of the chart, they should not be written, but *printed*, in black ink, so as to render them entirely legible. Remember and act upon the Golden Rule in these matters. References, in parentheses in the text, should call attention to all illustrations.

If you are using a bibliography, whether it be long or short, this should be placed upon a separate sheet and the references should correspond strictly to the style adopted by the American Library Association, like this: Thackeray, W. T.: Lobeline Sulphate. *CLIN. MED. & SURG.*, 30:510, July, 1923; Oberbeck, August: Alpha-lobelin in the Treatment of Asphyxia Neonatorum. *M. J. & Rec.*, 122:40, July 1, 1925. A study of the bibliographies in this Journal or the *J. A. M. A.* will be worth while. Avoid as a pestilence the practice of copying lengthy bibliographies from other journals which you consult. Include in your list *only articles to which you have actually, personally referred*. Your readers will be equally capable of finding the bibliographies in the journals you have studied and from which you have quoted.

You have probably noticed that case reports, when printed, are generally set "solid" (that is, without leading between the lines). In typing your manuscript, however, you should give no thought to such matters as that, but *every page* should have the lines double or triple spaced. The editor will give the printer any instructions necessary about the setting of the type. Some authors are in the habit of *typing* their case reports with single spacing. This is a mistake.

Write out every word that you have to say completely and fully, using *no abbreviations whatever*, except that, if numbers are used containing three or more digits, or if quantities or periods of time are mentioned, they may properly be expressed in figures. This is especially true in connection with case reports where it is a common thing to see manuscripts bristling with "t.i.d.", "p.r.n.", "Tb.", "l.o.a.", and the like. If the editor wishes to use abbreviations in the printed article, it is very much simpler to scratch out unnecessary letters than it is to write in missing letters between the lines.

Another matter which should receive careful attention is the use of careless and colloquial phrases. It may be perfectly proper, in the scrub-up room, to remark to one of your assistants that you "operated the patient, although he had no temperature, and have removed the pathology." If, however, you will consider this statement thoughtfully, from the standpoint of English grammar, you will realize that it is by no means the kind of locution that you would wish to have permanently embalmed in type under your name.

The pages of the manuscript should be numbered in sequence in the upper right hand corner or in the center of each page, and when all is complete the

original copy should be sent to the editor of the journal in which you wish it to appear, with a brief letter of transmittal, stating the title of the article and any essential points regarding its appearance. The manuscript should never be rolled, and unless it is short, or no full-sheet-size envelopes are at hand, should not be folded. It is much better to send it flat, with a piece of cardboard in the envelope to prevent crumpling or mutilation. When an editor receives a carbon copy of an article, the suspicion always arises in his mind that the article has been submitted to some other journal. This is an unpardonable offense, and if an author is detected once or twice in the practice of submitting manuscripts to two or more journals simultaneously, his work will very likely be excluded from all of them.

Having sent in your manuscript, do not at once begin to nag the editor to find out when it will appear. Prosperous and popular medical journals generally have in their editorial offices sufficient manuscripts to fill several numbers, and one of the functions of an editor is to decide in what order these articles shall appear. If you cannot trust the editor's judgment, as to time of appearance and for any changes he may make in your manuscript, do not send your article to his publication. In general it is safe to say that, the less work the editor has to do on a manuscript, the sooner it will be published, other things being equal. Reports of original investigation are generally given precedence over articles whose appeal is less immediate.

Proofs and Reprints

If you purpose to call the attention of your professional acquaintances to your work, you should order all the reprints you think you will need in the first instance. After the type is "killed" it is much more expensive to have it set up again. When you receive the galley proof of your article for correction, a blank for ordering reprints, stating the size of your article and prices, generally accompanies it. The corrected proof and the order blank should be returned *within 48 hours*. If you do not desire reprints, *say so* on the blank. If you are correcting much proof, it will pay you to learn the commoner proof-reader's marks.

Remember that it is bad form to do your *editing* on the proof sheets. This should be done on the *manuscript* before it goes to the editor. Extensive changes, after the type is set, are expensive and should never be necessary. Your proof reading ought not to require more than looking for errors in spelling, punctuation, and figures.

If you intend to do any considerable amount of medical writing it will pay you to purchase one of the textbooks on the subject. Several excellent volumes of this sort are available at reasonable prices and your technic will be much improved by their perusal.

For the seldom contributor to medical literature, I believe that the suggestions here made will be sufficient, if carefully followed, to enable him to produce manuscripts which will receive favorable consideration from any editor who receives them, when the same ideas, carelessly conceived and sloppily expressed—mentally and physically—would meet with prompt rejection.

Medical Arts Bldg.

Specificity of Quinine in Staphylococcus Aureus Infections

By

DAVID N. INGRAM, M.D., Houston, Pa.

New drugs are always rather exciting; and sometimes they are better than old ones, which we tend to forget. Dr. Ingram recalls some of the facts our fathers knew about quinine, and shows how this drug may do good service in staphylococcus infections.

A LARGE majority of acute and subacute purulent processes are caused by the pyogenic cocci¹, especially the staphylococci, by far the most important of which, pathologically, is the *Staphylococcus pyogenes aureus*.

Upon aspiration or paracentesis, serous cavities, infected with this organism, yield a pale-yellowish, thin fluid, in the early stages of the infection. As the infection progresses the fluid becomes thicker and assumes a definitely yellow color, which later becomes yellowish-brown and finally takes on a brown or even a bronze appearance. Secretions and exudates from the mucous surfaces and skin characteristically follow a similar progression when infected with this microorganism.

Man is far more susceptible than are the animals to the invasions of *Staphylococcus aureus*, and no explanation has been accepted which can account for the extreme variance in the susceptibility of different individuals under the same conditions, or the variance of the individual's resistance under different conditions or at different times. The most frequent offender in chronic infections of which men do not die, it may strike and kill in a few hours.

More troublesome in industry than the virulent and commonly more feared streptococcus family, which has, so far, received the lion's share of scientific attention, it is commonly accepted as a necessary evil, although it ranks at the top of the list on the morbidity, or "days lost from work" sheet. The living organism in the human body gives off two exotoxins: an hemolysin called *staphylolysin*, which can be as destructive to red blood cells as the hemolysin of the hemolytic streptococcus, and a leukocyte-destroying toxin called *leukocidin*. In man and in horses, an anti-staphylolysin commonly is found in abundance, and this probably accounts for the fact that chronicity does not necessarily bring about a marked and progressive anemia; nor does chronicity necessarily cause leukopenia by reason of the long exposure of the leukocytes to leukocidin, for the destructive propensities of this toxin may vary as much as 100 times in different strains of the same "aureus."

Stitt² states that any factor lowering the individual's resistance may permit a sudden and wide sweep of the infection. Thus the squeezing of an axillary furuncle may be the source of septicemia within the amazingly short space of 12 hours, and the victim of an automobile wreck or an industrial injury will have more to fear from his chronic sinus infection than from his broken back or punc-

tured lung. Long a relatively harmless "boarder," this treacherous guest often becomes a murderer as soon as its host's resistance is weakened and before he can muster his natural recuperative powers. In traumatic surgery, were an accurate survey to be made, the yellow staphylococcus would be found to be the cause of more sloughing, more delayed healing, more secondary hemorrhage, and more thrombosis than all the other pathogens put together.

Specificity of Quinine

In searching for confirmation of the apparent specificity of quinine in its destructive action upon staphylococcus aureus infections in my practice, where I have used the local anesthetic, Quinocaine (containing 0.00648 Gm. of quinine hydrobromide in 1 cc.), I found that, preceding 1912, the literature is replete with statements indicating the efficacy, and forthrightly stating the specificity, of this drug. But in the writings reaching publication after 1912, I can find little mention of the use of quinine or its derivatives in combating *Staphylococcus aureus* infections.

In 1902, Marx³ pointed out that this organism was destroyed by a 1.0 to 1.5 percent solution of quinine in from 30 to 60 minutes. Smith⁴, in 1910, stated that a 1:7,500 solution of the acid hydrochloride of quinine in the blood serum (the concentration resulting from the oral ingestion of 10 grains—0.65 Gm.—of the drug by a 140-pound patient) produced the maximum phagocytic action against streptococci, staphylococci, *B. coli*, *B. influenzae*, *B. pseudodiphtheriae*, and *B. tuberculosis*. Smaller doses were less effective, and larger doses (30 to 40 grains—2 to 2.55 Gm.—producing a serum concentration of 1:2,000) definitely inhibited the specific phagocytosis to as much as 50 percent. D. de Sandro⁵ had definitely declared and published almost identical conclusions eight months earlier, when he showed that ½ grain of quinine sulfate, in the blood of a 170-pound man (resulting from only 3 grains—200 mg.—given by mouth), would produce the maximum phagocytic action obtainable with any dose.

In 1910, it was accepted practice to attempt to abort acute tonsillitis with a 10 grain dose of quinine sulphate, and, if not always completely abortive in its action, at least, we are told by Sajous⁶, the drug would prevent the formation of pus. Sajous further states that from 5 to 20 grains of the sulphate will often prove abortive in abscess formation, and that, if already formed, such a dose will reduce the amount of discharge and prevent generalization of the infection.

In the first decade of this century it was known that a 1-percent solution of quinine would promptly cleanse a "dirty" wound; and in 1901 Marx⁷ stated that, as a disinfectant in wounds and sinuses, "this solution is effective and certain." In my own experience, chronic *Staphylococcus aureus* bronchitis and bronchiectasis have responded far better

to this drug than to any other treatment given by mouth.

That quinine is specific, and that the local anesthetic marketed under the trade name of Quinocaine^{8,9} might be utilized in certain instances as the agent of the therapeutic procedure, was called to my attention in a recent prepatellar bursitis case, in which only the *Staphylococcus aureus* was found. This was an ideal case, in that, in addition to the single organism present, an ideal culture medium was supplied in the bursal fluid, and this in a structure of known poor resistance, the synovial bursal lining. I feel that no better condition, *in vivo*, could be obtained for such a test.

Case Report

The patient, a white man, 57 years old, had an attack of acute appendicitis in January, 1939, but recovered under expectant treatment and 10 days of rest in bed.

During the night of May 28, he was awakened by severe, cramp-like pains in the epigastrium, followed by the typical, progressive signs and symptoms of acute appendicitis. At operation, a ruptured, gangrenous appendix was removed, along with a portion of the omentum which was grossly infected, and 600 cc. of yellow, purulent fluid were aspirated. Cultures of the peritoneal cavity and of the stump of the appendix were reported to contain *Staphylococcus aureus*, in pure culture. Subsequently, a second operation was necessary, to remove a large segment of gangrenous omentum.

Discharged from the hospital on the nineteenth postoperative day (June 16, 1939), with his wound still draining, the patient failed to gain strength, and, after attempting to work about the farm for several weeks, developed a red, swollen, and extremely painful right knee, which brought him to my office on August 24—about five days after the onset of the trouble and after three sleepless nights. No injury had been sustained. He had to be helped up the stairs, and rested for a considerable period before I even attempted to examine the knee.

Examination and Procedure: His temperature was 103.2° F.; pulse, 120. The right knee was swollen to approximately two and a half times the size of the left, and an oval, reddened area 14 by 17 cm. was noted. Palpation revealed the margin of this area to be indurated and extremely tender, and the center to be fluctuant and equally tender. My impression of an infectious bursitis was confirmed by the aspirating needle and a direct smear. The fluid removed was yellow and relatively thin in consistency, and under the microscope contained 4-plus white blood cells and one-plus red blood cells, along with myriads of single cocci, scattered uniformly throughout and with superimposed small clumps here and there. Subsequent culture confirmed the diagnosis of *Staphylococcus aureus* infection, and I feel safe to assume that the cellulitis surrounding the infected bursa was caused by this organism.

My operative procedure from this point on was, first, to inject through the aspirating needle, still in place, 15 cc. of Quinocaine, a local anesthetic, the purpose of which is to produce prolonged anesthesia by reason of its quinine hydrobromide content, but which I used, in this instance, for the primary purpose of combating a specific infection. Fifteen (15) to 20 cc. of the

fluid content of the bursa having been aspirated, it was estimated that at least 75 cc. remained and that the injection of 15 cc. would not increase the intrabursal pressure to its previous point, to cause a return of the extreme pain which had been relieved in part. In addition, and without removing the needle from its position in the mesial-lateral surface of the knee, 30 cc. of the Quinocaine were injected widely around and under the distended bursa. A combination of induration and thinness precluded injecting the solution over the bursa, as is my usual custom.

An infrared lamp was then placed over the knee and, after an interval of 10 minutes, the bursa was almost completely emptied by aspiration, following which, 20 cc. of Quinocaine were again injected. More than 50 cc. of yellow fluid was obtained, and a direct smear from this showed the same cocci, less uniformly scattered and more clumped in their arrangement. A culture from this showed no growth after 5 days, despite the fact that the cocci had been demonstrated in the direct smear!

After 25 minutes under the infrared lamp, the sac was again aspirated and emptied of 25 cc. of fluid, which was now tinged with red. An adhesive, sponge-rubber pad, cut to fit over the bursal area (edges beveled), was applied and further bound securely into the desired position by an elastic adhesive bandage.

Postoperative Course: Without a sedative or opiate, the patient walked comfortably out of the office, rode 10 miles to his home, went to bed, and "slept like a log." No pain or aching was felt at any time subsequent to the operation, except that which was caused by the elastic bandage pinching the skin of the popliteal space.

On August 26, 1939, his temperature was 98° F.; pulse, 66; there was no fever or redness over the bursa; induration and swelling were approximately half as great as two days before; no fever or redness was noted in the surrounding tissue. As only a slight amount of fluid was present in the sac, no attempt to empty it was made until after injecting it with 20 cc. of Quinocaine and giving it 30 minutes of infrared therapy given; then 26.0 cc. were aspirated. In the fluid drawn off for a direct smear and culture, the former revealed no micrococci, but did show two-plus red and white blood cells. The culture remained sterile after 5 days' incubation. A pressure bandage was reapplied.

On August 29, all induration was gone and only 25 percent of the original amount of swelling remained. A direct smear revealed no bacterial growth, and the microscopic field was covered with red blood cells and estimated one-plus leukocytes. Ten (10) cc. of Quinocaine were injected; 30 minutes of infrared therapy given; and 15 cc. of fluid aspirated. No inflammation, induration, or tenderness was demonstrable in or around the bursa. A non-adhesive elastic bandage was applied over the sponge-rubber pad. Although the skin of the popliteal space was raw and bleeding when the elastic adhesive was removed, there was no evidence of infection at any time, and healing was prompt.

On September 5, no fluid was present; no pain or discomfort; and no redness, swelling, or induration could be noted. An Ace bandage was applied. On September 16, fluid was palpable and the aspirating needle was not inserted. The only

swelling remaining was a very slight thickening of the bursal sac or wall. The patient was permitted to remove his elastic bandage at bedtime. On October 12, no abnormality was demonstrable; no discomfort or pain; full functional recovery. The patient's general condition showed marked improvement. He had gained 18 pounds in weight and was doing his regular work around the farm. The three-grain doses of quinine sulphate were discontinued on October 24; the patient was discharged; and the case classified as a four-plus result (recovery was surgically and symptomatically complete).

Comment

The quinine hydrobromide content of Quinocaine is 0.00648 Gm. per cc., or approximately a 1:154 solution. A prompt anesthetic effect is produced by a 1:2,000 content of Nupercaine (0.0005 Gm. per cc.). Having synergistic properties, these two constituents produce a highly satisfactory anesthesia of prolonged duration. My experience is that the duration of the anesthesia is in direct proportion to the amount of the solution injected into a given area. I use this solution in all cases of bursitis⁸, routinely, because of the clinical success achieved, and because, with it, there is a lessened morbidity, the patient being able to move the affected member in a few days and, except where complicating arthritis or joint adhesion exist, we may anticipate complete recovery within two weeks. In the case just reported, I used Quinocaine to determine the specificity of quinine in a known and demonstrable pure *Staphylococcus aureus* infection.

With the experience of early investigators and students to guide me, I felt that this solution of approximately 0.648 percent, although only from two-fifths to two-thirds the strength necessary to kill the *Staphylococcus aureus* in vitro in from 30 to 60 minutes³, because of its known tolerance by the body, was at least safe, if not so strong, for experimental purposes.

The 3-grain dose of quinine sulphate, by mouth, after each meal, was prescribed to maintain the optimum and constant blood content for the purpose of stimulating phagocytosis and thus combating the spread of the infectious process. Feeling that this infection was blood-borne from some focus, probably in the omentum, I believed that, in this manner, I could at least combat and possibly eradicate such a focus.

Similarly, previous to this experience, I have used Quinocaine in a considerable number of surgical conditions in which the *Staphylococcus aureus* was believed or demonstrated to be the infecting organism. Naturally, it is not always practical or possible to obtain smears or culture or both. In the following conditions, equally satisfactory results were obtained: Vaginal abscess; suppurative Bartholinitis; infections about the face; tonsillar and peritonsillar abscess; suppurative cervical adenitis; cellulitis of the soft parts of the body; crushing injuries and lacerated wounds, fresh and subsequently infected; paronychia and onychia; periostitis; osteitis and osteomyelitis; ingrown toenail; anal fissure; cryptitis and papillitis; and pararectal abscess.

Conclusions

1.—The *Staphylococcus aureus* is the microorganism responsible for most of the infections seen by traumatic and industrial surgeons.

2.—This organism is also the cause of most of

the postoperative wound infections, and acute and chronic infections involving bones.

3.—Such infections contribute largely to general morbidity in industrial and traumatic surgery, and specifically increase morbidities when complicating healing traumatized tissues.

4.—Infections resulting from the successful invasion of the tissues by this coccus should be accorded the consideration they deserve, which is far greater than that presently given them.

5.—Few, if any, escape its invasion during a lifetime, but fortunately most people are protected, to some degree at least, by their own antistaphylolysins and antileukocidins, the cumulative result of man's long exposure to and contact with the organism.

6.—Many factors influence the body's ability to produce or even maintain normal or average production of these antibodies. Hence, our optimistic, but false, sense of assurance and often carelessness in planning a combative campaign is, to say the least, inexcusable.

7.—Local anesthesia is commonly used in minor and major operative procedures where the *Staphylococcus aureus* is the known or suspected invading bacterial factor.

8.—Quinocaine, a local anesthetic containing 0.648 percent of quinine hydrobromide, offers much assistance in combating both this infection, per se, and the spread of the infection from its usually localized area. Neither I nor, in my opinion, any one else, can estimate how many times the injecting needle, carrying quick relief from pain, carries with it organisms it has picked up en route, or else, by the force of the flow of the solution projected from its point, pushes these organisms onward into uninfected territory where, without a circumscribing and retaining inflammatory wall, the resulting infection progresses like proverbial wildfire.

9.—The quinine hydrobromide content of this longer-acting local anesthetic offers a certain degree of protection against infection in clean operative wounds, by reason of its inhibiting effect upon the growth of most pathogens and upon the *Staphylococcus aureus* in a specific manner. In the presence of such an infection this specific action is of prime importance.

My wishful thinking has long led me to ponder the possibility that some enterprising and alert clinician-chemist-pharmacologist might combine quinine in some way that it might become as available to combat staphylococcus infections as sulfanilamide has come to be in combating the ravages of hemolytic streptococcus infections. In the meantime, we should not forget or neglect the cumulative experience of the many who have observed the effectiveness of quinine, locally and systemically, and who have recorded their observations thereupon, that we, in another generation, might be thus enabled to render a greater service to mankind.

Bibliography

- 1.—Hiss, Philip Hanson, and Zinsner, Hans: "A Text Book of Bacteriology," D. Appleton & Co., New York, 1919.
- 2.—Stitt, E. R.: "A Text Book of Practical Bacteriology, Blood Work and Parasitology," P. Blakiston's Son & Co., Philadelphia, 1916.
- 3.—Marx, H.: The Antiseptic Power of Quinine. *Munchen. med. Wchnschr.*, April 22, 1902.
- 4.—Smith: The Relation of Quinine to Phagocytosis. *Lancet*, Nov. 5, 1910.
- 5.—Wilson, T. M.: The Effect of Quinine on Phagocytosis. *J. Physiol.*, Sept. 2, 1907.

6.—Sajous, Chas. E. de M.: "Sajous's Anal. Cycl. of Practical Medicine." F. A. Davis & Co., Philadelphia, 1921.

7.—Marx, H.: Quinine as a Substitute for Iodoform. *Centralbl. f. Chir.*, Nov. 9, 1901.

8.—Ingram, David N.: Local Anesthesia. *Indust. Med.*, June, 1939.

9.—Farnsworth Laboratories, 28 E. Jackson Blvd., Chicago, Ill.

First Nat'l. Bank Bldg.

Local Anesthesia in Obstetrics

By

PAUL E. CRAIG, M.D., Coffeyville, Kans.

REGIONAL nerve block has not been given the prominence it deserves in the field of obstetrics. It has, in my experience, proved far superior to inhalation anesthetics, because it minimizes obstetric shock, prevents pulmonary complications, is easy to administer, eliminates the necessity of employing an assistant-anesthetist, and leaves the patient conscious, cooperative, and free from nausea and vomiting during the entire second stage of labor.

Technic

Injectations are made during pains, when the head presents on the perineum and moderate bulging occurs. The only equipment needed is a 1½-inch, 22-gauge needle, attached to a 20 cc. syringe filled with a 2-percent solution of Metycaine. The deep injections, made at 5 and 7 posteriorly and at 10 and 2 anteriorly, as represented on the dial of a clock (see Fig. 1), are carried out in the following manner:

The needle is inserted at a point from one-fourth to one-half inch *within the vagina*, parallel to the skin, and is directed diagonally downward and outward at 5 o'clock. When it has reached a depth of 1½ inches, an aspirating effect should be exerted in the syringe by pulling back the plunger gently, in order to avoid the intravenous injection of the drug.

The injection is then begun, and is continued while the needle is being slowly withdrawn, 5 cc. of the anesthetic solution being deposited beneath the fascia of the inferior urogenital diaphragm, lateral to the vaginal sphincter muscle and immediately above the deep transverse perineal muscle, thus effectively blocking the left perineal nerve, which pierces the diaphragm just medial to the ischial tuberosity. Another 5 cc. of Metycaine solution is deposited, in like manner, at 7 o'clock and the right perineal nerve is thus blocked. The deep injections are continued anteriorly at 10 and 2 o'clock, respectively, interrupting the sensory nerve supply to the anterior commissure, which derives its innervation from other branches of the internal pudic and the hypogastric sympathetic plexus.

Superficial injections are made at 9, 3, and 6 o'clock, the lateral injections being also made intravaginally and from 2 to 5 cc. of the anesthetic solution being expelled in the substance of the vaginal constrictor muscles. The posterior injection, at 6 o'clock, consists of infiltrating the subcutaneous tissues between the vaginal fourchette and the anus, care being taken not to perforate the rectum.

Advantages

This type of anesthesia is simple to administer, and therefore its use is as practical in the home

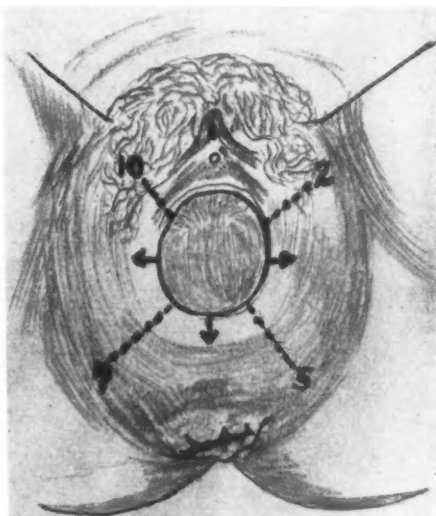


Fig. 1: Showing positions of injections. The dotted lines represent deep, and the arrows superficial injections.

as in the hospital. It produces complete muscular relaxation and perineal anesthesia.

The incidence of lacerations of the perineal body is markedly reduced and the preservation of the continuity of the rectovaginal septum is almost assured, because the fetal head is, at all times, under perfect control of the operator, and the patient, feeling no discomfort or pain, is cheerful and cooperative. Epistomies can be made and repaired without haste, and low-forceps operations can often be performed without the aid of supplemental anesthesia.

Metycaine was employed in a series of 38 cases, 18 of the patients being primiparas, and the resulting anesthesia was both prompt and prolonged, lasting from 30 to 45 minutes.

The average volume of anesthetic solution used in each case was 26 cc., and in each instance the postpartum edema of the vulva, consequent to perivaginal infiltration, disappeared within 48 hours.

203½ W. 8th St.

Colloidal Manganese in Acne and Psoriasis

By

WILLIAM G. WATT, M.D., Springfield, Mass.

Acne and psoriasis are common disorders, which are never fatal, but cause an untold amount of psychic distress and are difficult to cure.

Physicians who will follow Dr. Watt's suggestions on treatment are likely to improve their professional and financial status considerably.

THE attempt to treat diseases of unknown etiology brings forth a host of remedies, whose very number is evidence of their inefficiency. Particularly in the realm of dermatology, the attending physician is called upon to use a number of empiric remedies and palliative measures for the many common diseases of the skin with which he is confronted in his consulting room. Many of the lesions are on exposed surfaces of the body, and, because of their unsightly appearance, have a profound psychic effect on the patient, especially if he should be young. They all demand that something be done.

Among the more troublesome skin affections commonly seen in office practice are acne vulgaris and psoriasis, and in both instances the suspected causes are as varied as the remedies proposed for treatment. One of these remedies, colloidal manganese, attracted my attention several years ago, because of the numerous favorable reports in the literature, both here and abroad, concerning its clinical use.

Acne Vulgaris

Azer¹ reported a number of cases of acne which had proved to be resistant to other forms of therapy, including auto-vaccines, for at least one year. In all cases which had progressed to the pustular type, immediate improvement was noted after from 6 to 8 intramuscular injections of colloidal manganese hydroxide. While local treatment was used to allay symptoms, the improvement can be directly attributed to the manganese, inasmuch as local treatment had been used along with previous measures, with no satisfactory results. MacKenna², in his textbook on skin diseases, states that colloidal manganese is particularly valuable in the treatment of the suppurative form of acne. He noted that improvement began immediately and was marked after the sixth injection. A second course may occasionally be needed. Meacher³ has found colloidal manganese to be effective in conjunction with the use of x-rays, and Acton⁴ has found it useful along with vaccine therapy.

In this country, Oliver and Crawford⁵ have studied the effectiveness of colloidal manganese hydroxide in acne vulgaris. In their series of 134 cases, the pustular type of lesion predominated. Each case had had at least one year's treatment, and the average duration of previous types of treatment in this group was 4.2 years. Previous therapy had included general medical studies, with the removal of foci of infection where indicated; low-carbohydrate and low-fat diets; ovarian ex-

tract, where indicated; local treatment, in the form of soaps and lotions; autogenous and stock vaccines; and heliotherapy. Ten (10) of their cases had had x-ray therapy. Many of the cases were of the juvenile type and several were in the third and fourth decade of life.

An average of 5.4 injections of colloidal manganese were given, at weekly intervals, a few cases receiving as many as 11.

Of the 134 cases, 67.9 percent cleared up or showed definite improvement, without relapsing. Eighteen (18) patients who developed recurrences were given a second course of treatment, with gratifying results, only one case relapsing. They also report good results in furunculosis.

Other authors who found colloidal manganese valuable in the management of both acne and furunculosis are Carless⁶, Morris⁷, Gardiner⁸, Cooke and Willoughby⁹ and Phillips¹⁰.

Psoriasis

Moore¹¹ was the first to employ manganese therapy in the treatment of psoriasis. Because of the good results he obtained with colloidal manganese in several types of staphylococcus pyoderma, and holding the theory that psoriasis was caused by a special type of staphylococcus, Moore treated 35 patients with injections of the manganese preparation. While everyone may not agree with this theory, the use of manganese, according to his theory, was logical. Other reports from abroad^{12, 13, 14, 15}, have indicated that colloidal manganese, either alone or in conjunction with local treatment, has a definite place in the treatment of psoriasis.

In the United States, Barr¹⁶ treated 7 patients, with complete remissions in 5 and improvement in 2 cases. Schwartz¹⁷ reported cure in 2 cases of long standing. Spitz¹⁸ treated 100 cases of psoriasis with increasing doses, by intramuscular injections of colloidal manganese, until a course of 20 injections had been given. Although in many cases this treatment was combined with other forms of therapy, he states that, in most instances, improvement could be attributed to colloidal manganese, but believes that this drug is not a specific for the disease. Oliver and Crawford¹⁹ have presented an outstanding series of 125 carefully followed cases treated with colloidal manganese, using 128 cases as controls. They obtained 20 percent of cures, when suitable local measures were combined with the intramuscular injection of colloidal manganese. Notably good results were obtained on the face, and lesions on the scalp proved most refractory. The distressing symptoms of pruritus were relieved, in many instances, dramatically. They conclude that manganese, in the doses employed by them, seems to be entirely innocuous, and that intramuscular injections of the drug are an additional therapeutic measure of value in the treatment of this obstinate disease.

Oliver and Crawford, and most of the other au-

thors who have reported on manganese therapy, used the colloidal manganese hydroxide product, Colomang (Crookes). This is the original standardized preparation and is the manganese colloid I use exclusively in my own practice. It contains 25 milligrams of manganese in each cc., in the form of the colloidal hydroxide, and this concentration gives ample therapeutic effect without the least fear of toxicity.

As the following case reports, taken from a fairly large series of cases treated during the past few years in my private practice, indicate, manganese therapy cannot be regarded as a specific in the troublesome psoriasis and acne cases, but, in my opinion, it does offer a greater hope of a successful outcome, in a larger number of cases, than any other remedy now in use, and must be regarded as a valuable adjunct in the treatment of these conditions.

Case Reports

Psoriasis

Case 1: Miss D. H., age 24 years, a white mill operative, had had psoriasis for about two years, the lesions being especially on the scalp, and scattered over the legs, arms, and back, as small, nummular plaques.

This patient was given seventeen injections of Colomang, in a period of about three months. The areas cleared completely and the patient has had no recurrence in about five years. Improvement was noted after the third injection.

Case 2: H. K., age 29, a white female stenographer, had had recurring attacks of psoriasis for some ten years and, under various treatments, received only temporary benefit. The present attack began about one year before I saw her, on the scalp, and on the body about four months before. The lesions were large and confluent, located on the elbows, below the knees, on the scalp, and especially on the abdomen.

This patient was given 16 injections of Colomang, and also used an external application. She showed only slight improvement after the fifth injection and failed to return for further treatment after the sixteenth. The time period was February 9 to May 25 inclusive. Results were not satisfactory.

Case 3: R. M. R.; age, 25; male; white; unemployed. Lesions first appeared on the scalp about three weeks previous to his first visit, and there was one small plaque, guttate in type, on the left thigh, anteriorly.

This patient was given eighteen injections of Colomang between May 2 and October 10. After the fifth injection he complained of much pain in the left buttock, where the previous injection had been given. Thereafter injections were given only in the right buttock, with no pain, and he showed gradual improvement until discharged. External applications also were used in this case.

Case 4: J. W.; age, 42; male; white; chemist, had had recurrent attacks of psoriasis for twenty years. The lesions were nummular and located mostly on the legs. External applications did not control the condition, and in November injections of Colomang were begun, and continued to February 11, when the lesions had practically cleared. Fifteen (15) treatments, in all, were given, with excellent results.

Case 5: R. L.; age, 17; female; white; a stu-

dent, had scattered, generalized lesions of mixed types, which had begun on the extensor surface of the left elbow.

On January 28 the first injection of Colomang was given and treatments were continued until June 30—a total of 22. After the first injection the lesions became worse, especially those on the face, but a change for the better was noted in the next three weeks. From then on improvement continued, although it was slow, and it was not until after 13 injections had been given that marked improvement occurred. At the time of discharge, June 30, practically every lesion had disappeared. Only a few pin-head-sized spots on the arms persisted. External applications were also employed in this, as well as in other cases. The results were excellent.

Case 6: C. D., a white man, 29 years of age, first developed psoriasis at the age of ten, and had had recurrent attacks since then at irregular intervals. He has a father, uncle, sister, brother, and two cousins who are also psoriatics. The eruption is generalized, not an inch of the skin being free of scale during attacks. The lesions are thin and covered with thin scales. The patient has been to various physicians and hospitals, with only temporary relief each time.

With such a history, some six years ago, at the date of his first visit, it was decided to try manganese, and more relief was obtained with this medication than with any other used up to that time. There have been numerous recurrent attacks since then, at varying intervals, but each time the manganese has hastened the elimination of the scaling and the attacks seem to be a little less severe. External medication has been and still is used, while the patient is under treatment.

While no lasting relief has been obtained in this extremely rebellious case, Colomang continues to be the choice of both the patient and the attending physician.

Case 7: J. McM., a white man, 30 years of age, was first seen about four years ago and complained of a nummular and guttate eruption of some four years' standing, which had become worse recently. External applications were begun at once, and also intramuscular manganese injections. Improvement was noted from the start, and when eight injections had been given, all affected areas were cleared and the patient was discharged on June 28, 1935.

On May 26, 1936, the patient again presented himself for treatment, the plaques having begun to return about two months previously. This time the same routine resulted in clearing of lesions and discharge after five treatments (June 23, 1936).

On February 9, 1937, there was another recurrence, which had started in December, and the former procedure resulted in clearing the skin after ten treatments (April 20, 1937).

January 25, 1938, marked another recurrence, and twelve treatments were given to clear the skin.

There was a mild recurrence between June 18 and July 2, 1938, when no treatment was used other than ultraviolet irradiations and ointment. However, when the affected areas had not cleared by September 13, 1938, injections were again started, and on November 22 the patient was discharged, after eight injections.

On June 6, 1939, there was another recurrence, and the same measures were instituted as previously, with the result that, after six injections, practically every area had involuted and patient was discharged (July 18, 1939).

This has been a most interesting case and one in which manganese showed definite therapeutic value.

Acne

Case 1: W. C.; age, 17; white; unemployed, had had acne, on the face and shoulders, for the past two years. There were numerous scattered papules and pustules. In conjunction with other treatment (external), Colomang was injected into the buttocks. Only four injections were given, as the patient failed to follow the treatment, but some improvement was noticed.

Case 2: M. W.; age, 31; female; white; a clerk, had had acne for several years, but had been worse during the past two years. The eruption was scattered over the face and shoulders.

Manganese was not given at the outset, as external medication produced good results, but after about five months, the lesions not clearing entirely, Colomang injections were begun on September 1, and continued at weekly intervals until December 10, when the patient was so much improved that treatment was stopped. One month later, the pustules persisting, injections were once more begun and were continued until April 7, at which time the improvement was marked enough to warrant discontinuance of treatment. In all, 27 injections were given, and the results were very satisfactory.

Case 3: A. N.; female; white; 28 years of age, had had acne for nine or ten months and had been given various treatments, including x-rays and vaccines, with only mediocre results. When I first saw her, both cheeks were deeply scarred and there were eight or ten large pustules and papules on each cheek.

Injections of Colomang were begun, in conjunction with external treatment, and after eight treatments, improvement was noted, with eventual cure after 20 injections (June 19, 1934). The patient has been seen at varying intervals since that date and has remained continually clear of "pimples" since then, which is pleasing to both the patient and the physician, as this was a stubborn case.

Case 4: G. S., white; female; 18 years of age, had one of the worst cases of neglected acne I have seen in years, with large pustules and bad scarring.

Over a period of two years, 40 injections of Colomang were given, with good results. In spite of the fact that this patient was more or less irregular in presenting herself for treatment and did not always follow directions regarding diet and external applications prescribed, the manganese was of definite value.

Discussion

The mode of action of manganese in these skin conditions is not fully understood. However, it is well known that manganese plays an important part in the biologic economy, and that the metal is present in practically all human tissues, and in the blood to the extent of 12 mgm. percent²⁰. It has also been shown, experimentally²¹, that intravenous injections of manganese chloride augment the bactericidal property of the blood of goats.

Orent and McCollum²² demonstrated that manganese is essential to the normal life of the rat, which observation has been confirmed by a number of other workers^{23, 24, 25}.

A strictly clinical report by Comesasse²⁶ demonstrated that children in a debilitated and undernourished state, when put on a proper diet, failed to gain weight until .07 Gm. of manganese dioxide was added to their daily diet. They then began to gain weight rapidly. Titus²⁷ found that manganese played the same rôle as copper in affecting hemoglobin and blood regeneration in animals on a milk-iron diet. Turner²⁸ found that, where his patients were intolerant to iron or where constipation contra-indicated its use, injections of colloidal manganese resulted in rapid improvement of an existing anemia, together with the disappearance of boils and pustular eruptions in these patients.

A most important observation, made by Bohnstedt²⁹, based on the work of Block, Meirowsky, Konigstein, and Van Kerchoff, was that there was a distinct increase of lactic acid production in the healthy skin of psoriatic patients. His deduction was that colloidal manganese exercised an activating effect on the oxidation processes going on in the epidermal cells.

It is difficult to judge the rôle played by manganese in its effect on lesions caused by acne vulgaris and psoriasis. The presence of any one or a combination of the factors mentioned, may easily be conceived as turning the tide of forces in favor of the healing processes. Nevertheless, while we are not definitely able to account for the action of manganese, it is a demonstrable clinical fact that the lesions are affected by the metal where other treatment fails.

Bibliography

- 1.—Azer, M.: The Treatment of Acne Vulgaris. *Brit. M. J.*, 1:840 (May 12), 1923.
- 2.—MacKenna, R. W.: "Diseases of the Skin," 3d Edition. Baltimore: William Wood & Co. 1933, p. 430.
- 3.—Meacher, G. N.: The Treatment of Acne. *Nursing Mirror and Midwives J.*, April 17, 1926.
- 4.—Acton, W. H.: Acne. *Indian M. Gaz.*, Nov., 1927.
- 5.—Oliver, E. L.; and Crawford, G. M.: Manganese Therapy of Furunculosis and Pustular Acne. *M. Rec.*, 143:154 (Feb. 19), 1936.
- 6.—Carless, A.: "Manual of Surgery." Rose & Carless, 10th Edition. Baltimore: William Wood & Co., 1933, p. 415.
- 7.—Morris, M.: The Treatment of Furunculosis and Other Deep-seated Coccogenic Infections by Colloidal Manganese. *Brit. M. J.*, 1:446 (April 20), 1918.
- 8.—Gardiner, F.: "Handbook of Skin Diseases," 2nd Edition. New York: William Wood & Co. 1924, p. 35.
- 9.—Cooke, W. E.; and Willoughby, A.: Some Common Skin Affections of the Tropics and Their Treatment. *J. Roy. Nav. M. Serv.*, 19:14 (Jan.), 1933.
- 10.—Phillips, S.: A Dissertation upon Carbuncles. *Lancet*, 1:61 (Jan. 8), 1921.
- 11.—Moore, J.: Treatment of Psoriasis. *Brit. M. J.*, 2:41 (July 8), 1922.
- 12.—Szege, P.; and von Luka, S.: Ueber die Manganbehandlung der Psoriasis. *Munchen. med. Wchnschr.*, 78: 2122 (Dec.), 1931.
- 13.—Bohnstedt, R. M.: Erfahrungen mit Psorimangan bei der Psoriasisbehandlung. *Munchen. med. Wchnschr.*, 79:1150 (July), 1932.
- 14.—Schmidt, P. W.: Ueber die Behandlung der Psoriasis mit Psorimangan. *Munchen. med. Wchnschr.*, 78: 1090 (June), 1931.
- 15.—Richter, W.: Erfahrungen ueber neuere Methoden in der Psoriasisbehandlung. *Dermat. Ztschr.*, 65:375 (Feb.), 1933.
- 16.—Barr, J.: Intravenous Manganese in the Treatment of Psoriasis. *J. M. Soc. New Jersey*, 32:376 (June), 1935.
- 17.—Schwartz, F. F.: Psoriasis. *M. Rec.*, 281 (Sept. 18), 1935.
- 18.—Spitz, J.: The Use of Colloidal Manganese in Psoriasis—General Considerations. *Urol. & Cutan. Rev.*, 40:633, 1936.
- 19.—Oliver, E. L.; and Crawford, G. M.: Manganese

Therapy for Psoriasis. *Arch. Dermat. & Syph.*, 35:1120 (June), 1937.

20.—Reiman, C. K.; and Minot, A. S.: A Method for Manganese Quantitation in Biological Material Together with Data on the Manganese Content of Human Blood and Tissues. *J. Biol. Chem.*, 42:329, June, 1920.

21.—Walburn, L. E.: The Influence of Metal Salts on the Bactericidal Power of Blood Plasma. *Compt. rend. Soc. de biol.*, 89:1007 (Nov. 5), 1923.

22.—Orent, E. R.; and McCollum, E. V.: Effects of Deprivation of Manganese in the Rat. *J. Biol. Chem.*, 92:651 (Aug.), 1931.

23.—Remmerer, A. R., et al: *J. Biol. Chem.*, 92:623 (Aug.), 1931.

24.—Sheldon, J. H.; and Ramage, H.: On the Occur-

rence of Copper and Manganese in Preparations of Iron. *Quart. J. Med.*, 1:135 (Jan.), 1932.

25.—Skinner, J. T.: The Effect of a High Intake of Manganese on the Growth of Rats. *J. Nutrition*, 5:451 (Sept.), 1932.

26.—Camescasse, J.: The Activation of Assimilation by Manganese. *Arch. de med. d. enf.*, 26:406 (July), 1923.

27.—Titus, R. W.: The Manganese-Copper-Iron Complex as a Factor in Hemoglobin Building. *J. Biol. Chem.*, 80:565 (Dec.), 1928.

28.—Turner, E. B.: *Brit. M. J.*, 135 (Aug. 2), 1919.

29.—Bohnstedt, R. M.: Erfahrungen mit Psorimanganbie der Psoriasisbehandlung. *Munchen. med. Wchnschr.*, 79:1150 (July), 1932.

146 Chestnut St.

Histamine Phosphate in Dizziness Caused by Hypertension *

(A Preliminary Report)

By

WALLACE MARSHALL, M.D., Appleton, Wis.

Dizziness is a common complaint in cases of high blood pressure, but it is generally not relieved by the ordinary treatment given.

Dr. Marshall here suggests a way to help those who suffer with this distressing symptom.

TRANSIENT or permanent dizziness is a common and distressing symptom in many patients with hypertension, and the treatment ordinarily given for the relief of the basic disease does not readily relieve this symptom.

Since the cerebral cortex is often the seat of vascular disturbances in the benign and the malignant forms of hypertension, various types of transient aphasia and paralyses may be observed at times in such a condition¹. This is to be expected, since the cortex contains the centers for the sensory and the motor nuclei. But one notes the paucity of statements which concern the rôle of the cerebellum, which, by its proximity to the cortex, perhaps may share also in the vascular irregularities which have been so well studied by Kennedy, et al.² with regard to the cortex.

Shapiro³ claims that vertigo, arising from disturbances of the circulatory system, may be due to "vasomotor instability," without evidence of structural changes in the blood vessels.

Cooper⁴ accepts the cardiovascular causes for vertigo, and writes:

"Of all cardiovascular patients having dizziness as a symptom, the arteriosclerotic heads the list. His dizziness is created by too-rapid a change of posture, such as rising from bed too quickly, overextension of the head, stooping forward, or sudden turning. The dizziness is usually transitory and appears early in the disease, associated with mild occipital headaches and an elevated blood pressure; severe attacks of dizziness may be a premonitory sign of apoplexy. Pathologically speaking, the internal auditory artery undergoes the same changes as are seen in arteriosclerotic retinas, so that the vascular supply to the labyrinth, as well as to the brain centers, is deficient."

Clinicians may confuse vertigo with dizziness. Cooper defines vertigo as disorientation of the body

in space. It implies a sensation of motion of the patient or of the object he sees, while dizziness is unsteadiness of the body in relation to its surroundings, with orientation usually present.

The fact that so many types of medications have been tried, suggests the impotent status of our current therapeutics, at this time, for this common complaint. From the statements just made, it appears that this cardiovascular disorder must be corrected primarily.

Many types of sedatives have been employed, among which are various forms of bromides, phenobarbital, chlorotone, and scopolamine. Pilocarpine has been administered, to paralyze the parasympathetics. Injections of acetylcholine (0.1 Gm.) have been recommended, in order to relax vascular spasm. Nitrites have been employed for the same reason. Low-salt diets and large doses of ammonium chloride have been advocated by some investigators. Treatment of the often-present anemia is recommended, along with the correction of constipation. Even various surgical procedures have been recommended, along with the injection of formaldehyde into the inner ear. Arteriosclerotic vertigos have been treated also by autohemotherapy, according to Shield⁵. Even tobacco has been restricted in some cases, according to Brain⁶.

Personal Observations with Histamine Therapy

Marshall and Tarwater⁷ studied the effects of histamine phosphate in the psychoses. During this research, it was noted that a marked vasodilatation, especially in the head, was observed. Other interesting studies have been published with the use of this medication, which has been employed in several other disturbances, such as those affecting peripheral circulation, gastro-intestinal disorders, the field of allergy, and lately, in the treatment of hemicrania.

I have noted that the blood pressure readings dropped about 20 millimeters of mercury, following injections of histamine phosphate. With this in mind, I decided to see what effects the administration of this drug would have in hypertensive cardiovascular disease.

Observations bore out the fact that this drug would temporarily reduce blood pressure. Injections, graded in dosage and following our method

*Received for publication, February 1, 1940.

as previously described, were administered twice a week. Only 3 cases were thus treated, while 3 other cases, clinically resembling those receiving treatment with histamine phosphate, were treated with phenobarbital, $1\frac{1}{2}$ grains (0.1 Gm.), twice daily by mouth.

To be specific, the control group was given the following routine: (1) Reduction of the salt intake; (2) a high-protein, low-carbohydrate diet; (3) phenobarbital, $1\frac{1}{2}$ grains twice a day, preferably one tablet in the morning and afternoon; (4) rest in a reclining position as much as possible, with elimination of stair climbing, etc.; (5) elimination of feces by means of hot water taken by mouth before breakfast, and mineral oil, one ounce, before the evening meal.

The experimental group was placed on an identical routine of therapy, but this group also received injections of histamine phosphate (1:1,000 dilution) twice a week. Each patient was given 0.1 cc. of the drug subcutaneously. All patients were treated at my office. The doses of this material were determined by the nature of the reaction which was noted in each patient, as shown by the amount of flushing, and the accompanying headache, sweating, and metallic taste which the patients described a few minutes after each injection. If the preceding injection did not give a good reaction, the dose was increased only 0.1 cc. at the next injection. No patients received over 1.0 cc. of the drug at any injection.

During each treatment, the patient was made to lie down on the examining table and the blood pressure was taken before, immediately after, and at intervals up to 20 minutes following the injection of the drug.

The necessary histamine phosphate* was withdrawn from a 10 cc. rubber-capped vial, which was previously washed with alcohol. A sterile syringe, calibrated in tenths of a cc. (tuberculin syringe) was used. Injections were administered subcutaneously, in alternating arms. A moistened cold towel was placed over the forehead of the patient, who remained recumbent until the effects of the injection had worn away. The towels were freshened with cold water whenever necessary. This took from ten to thirty minutes. The physician was in constant attendance, with a separate syringe containing Adrenalin (epinephrin), ready for any emergency which might arise. No such event took place, but it was deemed advisable to be prepared for the advent of an untoward reaction, such as cardiac or vascular collapse. Blood pressure readings were taken from time to time following the injection. The blood pressures were lowered to a maximum of 30 millimeters of mercury pressure (systolic) and 20 millimeters (diastolic), until the effects of the injection had disappeared.

The entire course of treatment with histamine phosphate extended over approximately three months.

Results

1.—Control Group

The symptom of dizziness persisted over a period of three months (3 cases). Blood pressures were not reduced appreciably during this time. Pathologic urinary findings were present throughout the time of observations. The age factor did not appear to be important, since therapeutic results (con-

cerning the symptom of dizziness) were nil.

2.—Experimental Group

Dizziness was present in all three cases which were treated with histamine phosphate, but this symptom began to disappear as the higher doses were attained, and in all three patients disappeared completely within three months of observation, while the general feeling of well-being was improved markedly. Two cases in this group were of the benign type and one was a malignant hypertensive case. The disease was of longer duration, before therapy was begun, in this group, and all patients showed evidences of arteriosclerosis. Urinary findings improved markedly during the course of treatment, although the blood pressure readings tended to remain elevated.

It is interesting to note that all patients observed with histamine phosphate therapy experienced marked blushing of the face following the administration of the drug. This appears to be an important sign, of diagnostic significance, since it signifies the intact state of the vasodilator nerve supply. This method is now employed to determine the state of tissue viability in cases of gangrene of an extremity. I have recently described a case of vascular neurosyphilis which did not respond to this drug by the usual blushing of the face which usually follows its administration. In this particular case, it was inferred that the vasodilator nerve components of the head were involved⁸.

Summary

Since dizziness is one of the most severe complaints of patients who suffer with hypertension, current opinions have been reviewed as to the production of this symptom. Since vascular angiospasm is thought to produce this disorder at various sites, it is pertinent that the administration of antispasmodics might somewhat alleviate this complaint.

In order to test the efficiency of histamine phosphate, as a vasodilator for these angiospasm, one group of three patients was treated with this drug for three months. Another (control) group of three patients was treated with more or less standard therapy. The cardinal symptom of which all six patients complained was that of dizziness, which restricted even simple activities in their daily routine.

From these limited observations, it appears that histamine phosphate may have a place in medical armamentaria for the treatment of dizziness due to hypertension. It is with this thought in mind that I present these findings, which I trust will be investigated further by other observers.

References

- 1.—Marshall, W.: Nausea and Hiccup Manifestations of Cerebral Angiospasm; their Relationship to Epileptic Variants. *Medical Times*, 68:162-71, Apr., 1940.
- 2.—Kennedy, F.; Wortis, B.; and Wortis, H.: The Clinical Evidence for Cerebral Vasomotor Changes. *Proc. Ass'n. for Research in Nerv. & Ment. Dis.*, Nov., 1937.
- 3.—Shapiro, S. L.: Vertigo as a Syndrome in Vascular Disease. *Ill. M. J.*, 1936, 70:513.
- 4.—Cooper, K. G.: The Causes of Dizziness. *Rocky Mt. M. J.*, 1939, 36:703.
- 5.—Shield, J. A.: Vertigo—Its Causes and Treatment. *South. M. & S.*, 1936, XCVIII: 61.
- 6.—Brain, W. R.: Vertigo. *Brit. M. J.*, Sept. 17, 1938, 4054.
- 7.—Marshall, W., and Tarwater, J. S.: Use of Peptonol Solution and Histamine Phosphate in Treatment of Psychoses. *J. Nerv. & Ment. Dis.*, 1938, 88:36.
- 8.—Marshall, W.: Transient Amaurosis Produced by Vascular Neurosyphilis, with Notes on Same Disease in Consort. (To be published.)

103 West College Avenue.

*Supplied for this investigation through the courtesy of George A. Breon & Co., Inc., Kansas City, Mo.

A Living for the Doctor

The Business of Medicine and the Art of Living



Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

The Esthetic Faculty

THE illative faculty or reason seeks for *truth* and truth only. It has no other function or pre-occupation save to discover what is true about everything.

The moral faculty pursues *goodness*, with equal singleness of purpose. However we may feel about the matter, we do not recognize the good by means of our reasoning processes.

The esthetic faculty alone searches the universe for *beauty*—the third of the immortal triad of worthy objects of pursuit by man—and finds it just in proportion as it is *trained* to do so.

We do not expect a person to reason cogently, who has never had any training in the use of his mind; and we consider that the man who lacks this power is a decidedly inferior individual.

We do not expect keen ethical judgments from the man who has been brought up among thugs, second-story men, and prostitutes; but, for some reason or other, we do not look down upon the moral moron quite as we do upon those who are intellectually deficient, though we more or less dimly recognize the moral faculty as being necessary to satisfactory living.

As for the esthetic faculty, it is still in the oval or larval stage in most Americans today, but there are signs that quickening is taking place within the egg from which our sense of beauty will, one day, hatch.

Truly satisfying human living rests upon the tripod of truth, goodness, and beauty, and whoever lacks one or another of these is crippled in his appreciation of the world around him and in the expression of his unique individuality.

In order to pursue these objects, we must cultivate reason, ethical perception, and taste, by *daily exercise*. Only when *all* of these are operating in some degree can one truly be said to be living as a *man*; and only when they operate symmetrically and harmoniously can one live a balanced life and extract from it all the enjoyment and satisfaction which it is capable of giving one.

One scarcely needs, in this land and time, to

urge upon people the necessity for cultivating the intellect. In fact, there are evidences that that line of endeavor can be, and is being, overdone at times.

Superficially and conversationally, the ethical faculty is just as widely extolled and recognized as being necessary; but, practically, one who watches the behavior of his fellows sometimes has doubts.

Taste is still looked upon, by the vast majority of people, as a useless and frivolous appendage to human activity, fit for cultivation only by the exceptional genius or the lazy dilettante and having no worthy part in the activities of the practical people who claim to be doing the world's work.

Beauty is just as necessary to full and rich living as is truth or goodness—in fact, from some valid standpoints, more so. Taste is just as important a part of that genuine education which fits one for life as is reason or ethical perception, and the *curriculum vitae* which omits it is a defective program and fails to bring the man who pursues it to those hilltops of vision and power from which the art and science of human existence are seen as constituting the most glorious adventure which our finite consciousness is now able to perceive.

The true leaders of the New Age, which seems now to be in the throes of parturition, will be men who are developed on all sides—wise men, good men, and men of esthetic perception.

G. B. L.



Height and Reach

"No man can see over his own height. You cannot see in another man any more than you have in yourself; and your own intelligence strictly determines the extent to which he comes within its grasp. Intellect is invisible to the man who has none."

These words of the philosopher, Schopenhauer, may carry much meaning for the young physician. Explain your findings to your patients in their own terms and vernacular. Do not mention high professional ethics to a cutthroat businessman.

The legendary story of the young West Virginia lawyer points out the danger of the other extreme. He noted that the miners all wore hip boots and overalls, and chewed tobacco. In marked contrast, the lawyers dressed immaculately in sedate Prince

Albert coats. He decided that he would become friendly with his prospects quicker if he dressed like them, so he, too, donned boots and stalked the streets chewing gum. He soon had many *friends*, but no *clients*. The miners took their legal problems to the professional men who dressed better than they did.

There is a golden mean between slouching down to a lower level and snobbish overdressing, overacting, and overtalking.

R. L. G.

★ Notes and Abstracts ★

The Professions and Free Enterprise*

TODAY freedom of the professions is under jeopardy in America. The medical profession was the first to be placed under check. American medicine has been fighting for its life.

The Wagner National Health Bill hearings are pending in a subcommittee of the Senate. This bill puts the federal government into the field of medical care, from which it will never retreat. It would use federal and state funds to set up hospitals, to compete with church and voluntary institutions. It would lay the foundation for a vast system of tax-supported medical care that, in the end, would drive out of existence private hospitals and throttle the private practice of medicine.

The Wagner Bill is not dead. Hearings, it is reported in Washington, will be continued as a means of propaganda.

The public is being indoctrinated with the thought that, not the individual, not the family, but the State is responsible for providing medical service and medical care of all kinds. As a result of this propaganda, disseminated by the federal government with *taxpayers' money*†, the conviction has been disseminated throughout the nation that the individual should no longer pay for his medical care. Never in the history of medicine has it been as difficult as it is today for the doctor to collect what is due him.

In Russia and in Germany, where such a system of state medicine as the Wagner Bill proposes for the United States was first established, with the physician and the dentist under a politically controlled set-up, all other professions—the clergyman, the lawyer, the engineer, the architect, as well as business itself—have passed under state control.

Why this modern idolatry of the State? Why this readiness to turn all things over to Caesar—hospitals, the care of the sick—through public taxation? Why continue destruction of local self-government, bribery of states, and pressure for the control of radio and the press? Why divert more huge public funds for propaganda purposes? What justification is there for abolishing personal

responsibility for the care of one's aged parents, one's children, one's community, its charities and philanthropies?

With the destruction of the system of free competitive enterprise, inevitably we shall lose those precious rights that we now enjoy—freedom of the press, freedom of speech, the right of assembly, and trial by jury. That is not only the record of the past; that is the record of our own time. Wherever government manages the economic life of a people, the liberties and rights of the individual citizen disappear.

Here is a simple program that I would suggest, which will immediately benefit everyone: Put the millions of unemployed back to work. Give increased purchasing power to all, so that they can have the things they want and need and which our productive machine age is able to supply.

First of all, *confidence* must be restored by having a national policy worthy of confidence. Capital and business must have faith in the future. These absurd ideas of unlimited spending and controlling every farm and business from Washington must be chucked into the ash can.

We must have a really *sound monetary system*, an honest dollar of constant purchasing and debt-paying power. This should be done by establishing a monetary authority under mandate of Congress, to regulate the value of the dollar so that it will no longer cheat debtor or creditor; so that great depressions and big booms can be controlled by stabilizing the price level of basic commodities.

The greatest contribution America can make to world peace is to manage our own affairs so well, to make our people so happy and prosperous without getting entangled into the affairs of other nations, that the rest of the world will want to follow our example and adopt our method of government.

Our democracy is the greatest heritage that any nation ever possessed, but it will work only if citizens *inform themselves* and make *their voting influence count*. Today we face a crisis greater than any in our history, not excepting that of Lincoln's time. This crisis threatens the fundamental principles of our form of government. The issues with which we must deal transcend party lines. If we are to regain conditions that will give us hope and satisfaction in the future, that will restore enthusiasm, that will engender anew the initiative and fires of ambition, we must see to it that the coun-

*Abstract of an address delivered at the annual convention of the A. D. A., July 18, 1939.

†The italics, throughout, are ours.—Ed.

try is brought back to the right road of recovery. *Our weapon is the ballot.*

Go, yourself, and have others go to the precinct captain of your political party; to the county chairman. Write to the state leaders. Tell them that you are concerned over the preservation of free enterprise and democracy, and that in 1940 you will vote only for candidates pledged to restore and uphold these.

We have less than twelve months to educate the country. *Do your part! Begin at once,* for a great decision lies ahead. Fight to save yourselves, your profession, your business, your children! Fight to save America!

FRANK GANNETT.

New York City.

Athletic Physician Originates New Game

To be a Doctor of Medicine and an able clinician might be enough for most men, but to Dr. Wm. E. Code, Chicago, that is only one part of his life. His other side is taking part in athletic events, not merely watching others perform. He likes all sports so well that he has even added one of his own, and it seems to be one that is "catching on" in popular favor.



Kobel Feature Photos.

"Codeball" is named after its originator and is something akin to golf. The "holes" are truncated cones, 7½ inches high and 42 inches in diameter at the bottom, with a cup 18 inches in diameter and 7½ inches deep. Instead of using a golf ball and various clubs, a six-inch rubber ball is used, and is driven by kicks around the usual 14-hole course. A recent winning score in a woman's tournament was 72 kicks. It has the sanction of the Amateur Athletic Union of the United States, and tournaments have been held at various large cities.

A variant of this game is played on an indoor

court, much like handball, except that the ball is larger and is "handled" with the feet.

But being the originator of a new game does not mean that Dr. Code disregards other games. It has not been many months since he played 18 holes of golf in a bit over 45 minutes. One day he played 153 holes. And to show how versatile he is, he bowled once for one hour, and in that time played 14 games and three frames, wearing out three pin setters and knocking off 2,621 pins. He handled four tons of bowling balls in that hour.

The accompanying picture shows Dr. Code giving some pointers on "sinking the kick" to a feminine enthusiast.

Save postage! Use the Coupon
SEND FOR THIS LITERATURE

★ Books ★

Law and Medical Care

LAW AND CONTEMPORARY PROBLEMS: Medical Care. Vol. VI; No. 4. Durham, North Carolina: Duke University Press. 1939. Price, \$0.75.

THE School of Law of Duke University presents a well printed volume of 180 pages, containing 14 articles dealing with the various aspects of medical care, especially in relation to their legal foundation and enabling acts. Various plans ("Michigan," California, Farm Security Administration, Wagner bill) are presented; medical contracts and liability of corporations and practitioners are discussed. Impartiality is strictly observed.

Action is always dear to the heart of the reformer, but it is seldom to the taste of the flamboyant reformer to do the necessary, hard, uninviting, undramatic study which is necessary before a satisfactory plan can be worked out. The Michigan State Medical Society spent nine years and \$30,000 in working out a plan, yet have not seized publicity. Falk, in his introduction to the book, gives no direct credit to the medical profession for working out solutions.

Chemico-Physical Immortality

Gaskell

WHENCE? WHITHER? WHY? A New Philosophy Based on the Physical Sciences. By AUGUSTA GASKELL, author of "What Is Life?" Introduction by F. K. RICHMYER, Professor of Physics, Cornell University. New York: G. P. Putnam's Sons. 1939. Price, \$2.50.

THIS posthumously-published work, by the remarkable author of "What Is Life?" (See CLIN. MED. AND SURG., Jan., 1934, p. 52), is, perhaps, even more astonishing than its predecessor, in which she accounted for the origin of life on a purely chemico-physical basis, by ideally logical scientific reasoning. Here she demonstrates, by equally unassailable logic, that, on the basis of her original thesis, immortality is *inescapable*; but it is scarcely a type of immortality that would appeal strongly to an aspiring soul.

Those who read her former book will surely want to read this one; and it is almost necessary to master the details of her thesis, in order to understand this elaboration of it, although one can enjoy the clear and strict beauty of her logic. She went so far "on her own power," so to speak, that it is a pity she did not have the light of the Ancient Wisdom to carry her just a little further.

The book is extensively documented (there are 100 references) and well indexed, and will be a joy to all who love a closely-reasoned discussion for its own sake and are fascinated when it carries them into entirely new territory.

The Seminar



(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 6 (Diagnostic)

Presented by James A. Lehman, M.D.,
Philadelphia, Pa.

(See CLIN. MED. & SURG., June, 1940, p. 222)

RECAPITULATION: A woman of 35 years, apparently normal otherwise, as shown by clinical and laboratory examinations, developed acute appendicitis, without any unusual symptoms (her temperature, on admission to the hospital, was 98.8° F.), and was operated upon in the usual way. The appendix was not perforated and did not rupture. Her past history contained nothing significant (she had never been seriously ill) and she had taken no medicine.

Twenty-four hours after the operation, her temperature was 102° F.; her pulse rate, 130; and she was highly excited and nervous. Shortly thereafter, her pulse rate and blood pressure decreased alarmingly and she was given an injection of epinephrin, after which her temperature and her pulse and respiratory rates increased rapidly, and she died 48 hours after the operation.

Requirements: Give your tentative diagnosis and state what further information you would need to make a definite diagnosis, *giving reasons*. What, if anything, might have been done to save this patient's life?

Discussion by A. H. Follingstad, M.D., F.A.C.S.
Springer, New Mex.

Since no mention is made of symptoms peculiar to a septic or infectious process, one must assume that they were not present and consider a chemical or metabolic catastrophe.

Of all the possibilities, the one most likely, from the description of the case, is *thyrotoxicosis* with a *thyroid crisis* precipitated by the operation, anesthetic, and the administration of epinephrin. The diagnosis would be made by:

1.—**History:** An inquiry into the patient's past life, particularly the past year, with special emphasis on the presence of weight loss, nervousness, heat intolerance, and the other symptoms of thy-

rotoxicosis. The history, in a case like this, would be of more value than any other diagnostic procedure.

2.—**Physical Findings:** The marked nervousness, pulse rate out of proportion to the temperature, and other symptoms, are significant. A search should be made for other physical signs of thyroid disease, such as an enlarged, tense thyroid gland, with a bruit; the eye signs; tremor of the tongue and fingers; etc.

3.—**Laboratory:** A basal metabolism test would not be accurate in a postoperative patient; but a very high basal rate, out of proportion to what may be expected in such a patient with fever, would be suggestive. Blood chemistry studies, particularly of blood sugar and cholesterol, would be helpful.

Treatment: 1.—**Fluids:** Push fluids by all routes (saline solution by hypodermoclysis; dextrose solution by venoclysis).

2.—**Sedation:** Morphine to the point of adequate narcosis; Avertin, rectally, if necessary.

3.—**Refrigeration:** Cold-water sponging and ice-packs.

4.—**Iodine,** given rectally, intravenously, and, if possible, orally.

5.—**Support of the Circulatory System:** Digitalis, in adequate amounts, if digitalization is deemed indicated.

Discussion by W. A. Farrell, M.D.,
Toronto, Ont., Can.

The history of this case, together with no unusual laboratory findings, suggests that this patient died from an overwhelming *streptococcal septicemia*. A blood culture might or might not reveal the organism as, in these cases, the blood examination is often essentially negative.

The organism causing this condition is a cowardly type of streptococcus, and appears to have an advance guard in the form of a virus, to prepare the road, in the same manner that a pilot fish is vassal to the shark. The lymphatic drainage of the appendix is extensive and picks up these organisms, causing a localized peritonitis, which accounts, in part, for the excitation of the patient and making it almost impossible to quiet her.

No treatment is of value in this type of case.

Neither Dagenan (sulfapyridine) nor other sulfonamides will destroy the organism or its virus; blood transfusions help only in slight degree; and other methods, commonly of value in septicemia, are without effect, as this form of streptococcus appears to be too powerful for the human body to resist.

Solution by Dr. Lehman*

This patient had an unrecognized attack of hyperthyroidism. Certain factors will precipitate a mild or latent hyperthyroidism into a severe, acute attack. These factors are pain, emotional excitations, hemorrhage, asphyxia, or an injection of epinephrin.

We can roughly classify into three groups the patients who may develop a thyroid crisis following an operation or illness: (1) Those who have previously undergone a thyroidectomy and are cured or symptom-free; (2) those who have mild or unrecognized forms of hyperthyroidism, or as Dr. Foss emphasized, the so-called apathetic or burned-out hyperthyroid patients; and (3) the group with known hyperthyroidism, in whom operative procedures are contemplated.

In the latter group, only those patients should be operated upon who have *acute* surgical conditions, and these should be given the same treatment as that used for hyperthyroid patients (intravenous injections of dextrose and iodine; Lugol's solution by mouth; and sedatives). A period of preparation (rest and Lugol's solution) should be carried out before performing amputation of the breast, perineal repair, or other non-emergency surgery. If this is done, the results are usually good. It is most advisable, however, to perform a thyroidectomy before any other operation is performed.

Comments by R. L. Gorrell, M.D., Clarion, Iowa

Those of us who are surgically minded have a reflex reaction to a postoperative rise in temperature and pulse rate. We think of wound infection, peritonitis, or hemorrhage—the common complications of surgical procedures, or their causative factors.

These cases are so rare that one tends to forget the hyperthyroid crisis, especially if the patient does not seem unduly excited and no palpable enlargement of the thyroid gland can be found.

A woman of 26 was subjected to a radical amputation of the left breast for a grade-four carcinoma. The anesthetic was not deep nor prolonged, and the blood loss was not marked. I was puzzled by a sudden rise in the temperature and pulse rate, which occurred on the evening of the day of operation. There was no evidence of shock. It was fortunate that Dr. R. G. Bird, of Clarion, made the proper diagnosis immediately and that she was given iodine intravenously.

A more puzzling case was operated upon only a few weeks ago. A girl of 18, whose general condition was very good, was operated upon for sub-acute appendicitis, under field block and light general anesthesia. The first three days were uneventful, and she had so little pain that she walked to the bathroom on the evening of the third day. Her temperature continued to range between 99° and 100° F., and her pulse between 95 and 110. Moderate tenderness was noted on palpating below

the lower angle of the incision, so that a mild wound infection was considered to be present. It was not until she was up and about, at the end of the week, that the possibility of hyperthyroidism was considered. At no time was she excitable, although, on closer examination of the nurse's record, it is found that she was crying without apparent cause, on one occasion. No thyroid enlargement was or is palpable. The wound tenderness disappeared entirely in 36 hours, but the mild fever and tachycardia persisted for 10 days postoperatively.

The onset of hyperthyroidism may follow some simple minor surgical procedure performed in the office, or following a painful illness, so that it behooves all practitioners of medicine and surgery to be on their guard.

The injection of epinephrin, which had a fatal effect on the problem patient, raises the question of why that drug was given. Modern research has proved that shock is best treated by blood transfusions and intravenous injections of dextrose solution. Epinephrin makes the pulse temporarily stronger and raises the blood pressure, so that the physician often does not realize that shock is progressing. It may be said that a physician's knowledge is in direct proportion to the number of times that he does not use stimulants.

Problem No. 8 (Surgical)

Presented by A. H. Follingstad, M.D.,
Springer, New Mex.

A PRIMIPAROUS woman of 24 years, and in the fourth month of her pregnancy, was suddenly seized with excruciating pain in the right side. This pain was constant, unremitting, and tearing in quality; started high in the right flank; and radiated anteriorly and down to the pubis. Examination revealed a temperature of 98.0° F., moderate rigidity of the right rectus, and a vague mass occupying the right upper abdominal quadrant. The patient was hospitalized. Urinalysis was negative; the leukocyte count was 14,000; and relief from pain was obtained only with morphine.

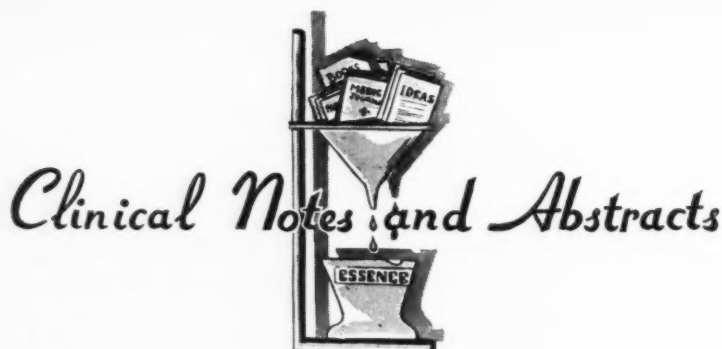
The past history, including venereal, was essentially negative, except for an appendectomy three years previously. The pregnancy had been uneventful until the onset of the present illness. Twenty-four hours later the leukocyte count had fallen to 12,000; the temperature was 99.4° F.; and urinalysis was still negative.

Examination revealed the presence of a smooth, ovoid mass extending, on the right, from the costal margin to two inches below the umbilicus and out into the flank. Bi-manual examination revealed a gravid uterus about the size of a four-months pregnancy, and no palpable abnormalities, the mass being too high to be reached by the examining fingers.

There were no symptoms referable to any involvement of the gastro-intestinal tract until the third day, when distention developed, but this was undoubtedly extra-intestinal and on a mechanical basis, from pressure. Chills, spiked temperature curve, and other signs of a septic process were absent.

Requirements: Suggest your tentative diagnosis, giving reasons, and state what further information you would need to make a definite diagnosis. Outline treatment.

*Adapted from *Pennsylvania M. J.*, Feb. 1, 1940.



Neoprontosil in Acute Perforative Appendicitis

THE following case is of interest, in that Neoprontosil (Winthrop) was used, both intraperitoneally and subcutaneously, with beneficial effects, following an appendectomy for acute perforative appendicitis.

Case Report

Mr. W. G., age 39 years, was stricken with an acute appendiceal attack on November 1, 1939, and after a lapse of some 36 hours, called a physician. When the patient was first seen, his temperature was 96.2° F.; pulse, 120; respirations, 24; and he showed all signs of profound shock. The leukocyte count was 17,800; polymorphonuclears, 82 percent. Immediate operation was decided upon.

A perforated appendix was removed and drainage instituted; 20 cc. of Neoprontosil solution was slowly instilled through the wound; six hours later another 20 cc. was given subcutaneously. Two such injections were given daily.

On the second day, abdominal distension, hiccup, and "prontosil-cyanosis" had developed. Due to the continued subnormal temperature, diathermy was applied through the lower abdominal region, giving the patient considerable relief and raising his temperature to 99.2° F. For the extreme anoxic state, air-hunger, etc., oxygen inhalations were given. Oddly, the oxygen therapy cleared up the livid hue of the skin (methemoglobinemia), and appeared to control the singultus. The Neoprontosil was discontinued on the seventh postoperative day, when the patient was pronounced out of danger. On the eleventh day he was able to leave the hospital.

Comments

From the dramatic recovery occurring in this case, one would be justified in prescribing Neoprontosil, both intraperitoneally and subcutaneously. This new sulfur-containing dye would be indicated both before and after operations upon the appendix, and also in salpingitis, and various other abdominal conditions where peritonitis is liable to follow.

In this case the patient's urine was alkaline while he was under Neoprontosil treatment. If this be a criterion, then these new dyes not only produce alkalosis, but the prescribing of sodium bicarbonate along with them would aggravate such a state.

Another conclusion one might draw from this case is that oxygen therapy might be a better agent than methylene blue in clearing up the methemoglobinemia and sulfhemoglobinemia following the administration of sulfanilamide, prontosil, etc. From my observation, methylene blue itself results in a methemoglobinemia, and for that reason would be contraindicated when prescribing prontosil. There is evidence, also, that these two agents are incompatible.

Sulfanilamide, Prontosil, etc., may exert their beneficial effects through an oxido-reducing and detoxifying action in the body. They appear also to inhibit or inactivate the bacterial-enzyme systems, thus preventing their enzyme action on certain tissues and fluids, to produce toxins, ptomaines, etc. These types of chemical dyes are excellent oxido-reducing agents, acting as catalysts for certain biologic reactions by accelerating oxidation in the tissues, and forming methemoglobin. This latter condition results in anoxia and anoxemia, and in this manner may also affect bacteria, though there is no present proof that such "bacterial asphyxia" occurs. This phase should warrant further study. Sulfanilamide and allied drugs increase oxidation temporarily, as shown by increased metabolism accompanied by a rise in body temperature. They also produce a CO₂ deficit, which causes a rise in the serum pH (alkalemia).

The terms "acidosis" and "alkalosis" are too loosely and indiscriminately used, causing much confusion. "Acidosis" cannot mean any real acidity of the blood (a blood pH below 7.0), for this is incompatible with life. "Alkalosis" carries the corresponding meaning of an increased alkali reserve. This may or may not be associated with a rise in the blood pH.

The terms suggested for these acid-base states are alkalemia and acidemia. The British Medical

Council has recommended that the term, acidemia, be used for a state in which the pH is lowered, and that acidosis be restricted to indicate only a lowered alkali reserve, with unaltered pH . Alkalemia would indicate a blood state in which the pH was raised, while alkalosis would be retained to indicate an increase in the reserve alkalinity. It is hoped the American Medical Council on Nomenclature will see fit to clarify or re-define these and other such ambiguous terms.

A full description of the acid-base states of the body tissues may be found in "The Physiological Basis of Medical Practice," by Charles H. Best, and Norman B. Taylor (The Williams and Wilkins Co., Baltimore, 1939).

R. DE R. BARONDES, M.D.

San Diego, Calif.

[Since this patient received other active treatment (diathermy and oxygen), in addition to the Neoprontosil, this drug can scarcely be given the entire credit for his recovery, but Dr. Barondes' suggestion is still interesting and seems worthy of being tried by others who meet desperate cases such as this one.

It would be enlightening if this method could be used in a series of such cases, in comparison with the one described by Drs. Bain and Feagles, in the April issue of "C.M.&S." Such comparative studies are examples of genuine *clinical research*.—Ed.]

Injection Treatment of Rectal Prolapse

PROLAPSE of the rectum may be cured by injections of quinine and urea hydrochloride (3-percent solution). The technic employed is the same as that for injecting hemorrhoids. A few drops of the solution are injected beneath the mucous membrane at three or four points, the needle being introduced immediately above the anorectal line. From one to six injections may be required, two or three usually sufficing for a cure. No other treatment is given and there is no restriction of activities. Constipation should be corrected by diet.—E. H. TERRELL, M.D., in *Med. World*, Mar., 1940.

Local Anesthesia in Gynecology and Obstetrics*

IN our opinion, local infiltration is the anesthesia of choice for all vaginal operations. The essential prerequisite for rendering the anesthesia successful is to obtund the patient's perception of pain with Sigmodal (a barbiturate given rectally), so that she will not be uncomfortable in the exaggerated lithotomy position and will not be apprehensive. All preparations in the operating room should be made gently, and no irritating solutions should be used.

Technic: Our standard solution for local infiltration is 1/4-percent Novocain (procaine) solution, with 3 drops of Suprarenin (epinephrin) added to the ounce. We perform minor (curettage, amputation of the cervix, plastic operations on the vaginal wall, repair of perineal lacerations, repair of vesicovaginal fistulae, excision of Bartholin glands, and vulvectomy) and major operations (vaginal hysterectomies, LeFort and Manchester

operations, radical vulvectomy), under local anesthesia.

The cervix is exposed, grasped with the tenaculum, and gently pulled to one side, thus unfolding the lateral fornix. The needle is inserted, alongside of and close to the cervix, to a depth of one inch; the tip of the needle should point a little laterally. A resistance encountered indicates that the cervix has been entered and the needle must, therefore, be slightly retracted and reinserted. It requires but little experience to know when the needle is in its proper place, in the soft tissue of the parametrium. While withdrawing the needle slowly, 10 cc. of the solution is injected, and the same procedure is repeated on the other side.

In major operations, such as hysterectomies, the required quantity of the anesthetic is slightly larger—half an ounce (16 cc.) on each side. This infiltration of the parametria blocks effectively the large sympathetic ganglion of Frankenhäuser, located near the upper end of the anterior surface of the cervix. The blanching of the vaginal portion of the cervix indicates that the anesthetic has spread well. An incomplete discoloration requires an additional injection of a few cc. into the spaces between the cervix and bladder, and between cervix and rectum. It is essential to wait with the start of the operation until the infiltrated tissues are completely blanched.

Before the injection is begun, the piston of the syringe should be pulled back, to make sure that the Novocain solution will not be injected into a vein. If this happens, alarming symptoms appear, but disappear shortly without leaving permanent damage, according to Braun. The needle should be tested before use and never inserted to its full length, so that its extraction causes no difficulty in cases of breakage.

Curettages: The local infiltration relaxes the cervix very effectively and the dilation of the internal os (generally the most painful part of the operation) is entirely free from pain.

Amputation of the cervix is rendered easier because the usual free bleeding does not occur. Cutting through the parametria is entirely painless; pulling on the infundibulopelvic ligaments causes temporary pain, readily relieved by a few whiffs of ether or gas. The final steps (closing of the peritoneal cavity, uniting of stumps of the broad ligaments, and the interposition between the bladder and vagina) are painless.

Only 8 to 10 cc. of the solution need be infiltrated between the vaginal mucosa and the bladder, to perform anterior colporrhaphies. *Perineorrhaphies* demand greater amounts of solution. The initial injection is made at the lower end of the labium minus; from there, the needle is thrust along the mucocutaneous border as far as the labium minus and the solution is freely injected while the needle is being slowly withdrawn. After placing tenacula on either end of the anesthetized area, the tissues between the vagina and the rectum are infiltrated, which has to be done well beyond the limit of the incision. Finally, 5 or more cc. are injected into the levator ani on both sides.

In obstetrics, we use a combination of a barbiturate (administered rectally) and local anesthesia. When the head first becomes visible during the contractions, the perineal body and the levators are injected in exactly the same manner as has been described for perineorrhaphies. *The analgesic effect is striking, and particularly impressive in those*

*Anesth. & Analg., Sept.-Oct., 1939.

cases where the vulvar ring is narrow and rigid and has not become pliable by the physiological edema and succulence of the tissues.

Forceps application is facilitated, if needed. Lacerations are reduced in number and extent. Episiotomies and their repairs can be done easily and painlessly. Wounds heal well, and the procedure is just as simple in the home as in the hospital.

F. V. EMMERT, M.D., and
S. G. SCHMIDT, M.D.

St. Louis, Mo.
Chicago, Ill.

Look for **THE LEISURE HOUR** among the advertising pages at the back.

Barbiturates and Oxygen

THE barbiturates are generally excellent as sedatives, but dangerous in full anesthetic dosage. Like other narcotics, but apparently in a higher degree than any others, they depress, and largely abolish, the natural government of respiration by carbon dioxide. Mere air is then inadequate to support life, for the excessive accumulation of carbon dioxide in the lungs and blood correspondingly excludes oxygen. Inhalations or insufflations of oxygen are needed to prevent asphyxia. The safe "single dose anesthetic" has not yet been discovered.

Carbon dioxide should *not* be given with oxygen to patients who have received good-sized doses of barbiturates. Oxygen alone should be given. Carbon dioxide may be used as a respiratory stimulant to patients who have received deep inhalation anesthesia.—YANDELL HENDERSON, PH.D., in *J. A. M. A.*, Mar. 3, 1940.

Trauma to the Abdomen

TRAUMA to the abdomen results either in hemorrhage or rupture of an organ, with resultant peritonitis. The organs that are commonly ruptured are the solid organs, such as the liver, spleen, or kidney, and hollow organs, including the gastrointestinal tract and bladder.

It is very important to take an x-ray film of the abdomen with the patient *standing or sitting erect*. As little as 5 cc. of air or gas (from a perforated ulcer or ruptured bowel) will be visible under the diaphragm, in the anteroposterior or lateral views.

Suction (easily obtained by hooking up a water suction outfit to a faucet or by using the ordinary tonsil suction pump) of the abdominal contents should be used in operating on any patient who has suffered injury to any abdominal organ. Blood is removed promptly, and visibility is good. Prompt removal of bowel contents lowers peritoneal contamination. Experimentally, it has been shown that, where suction is used, with water to wash out the infected abdominal cavity mechanically, results are much better than with simple sponging.

Abdominal pain which appears after abdominal trauma does not always signify abdominal injury. *Distension often follows urinary tract obstruction.* Distension and fever, after abdominal trauma, may occur because of lung collapse (pulmonary atelectasis).

WILLARD D. WHITE, M.D.

Minneapolis, Minn.

Safeguarding the Unconscious Surgical Patient*

THE skin is the great sensory organ and should be carefully guarded. The constant pull of towel clips, through the duration of an operation, can have a harmful influence. The use of local or regional anesthesia, in addition to general anesthesia, lessens the reflex effects of pain, and even if not routinely used, should be employed for the peritoneum, tendon sheaths, synovium, skin, and about the orifices of the body.

One is often impressed by the great discomfort complained of by the patient operated upon under local anesthesia and held for some time in a constrained position. It is not pain of which he complains, but great discomfort and restlessness, which not infrequently have a marked effect upon the pulse and blood pressure. During deep anesthesia, it is possible to place a patient in a strained and unnatural position. *It should be a rule not to place the unconscious person in a position he could not comfortably assume if conscious* (the extreme lithotomy or "delivery" position is a good example).

During an operation, the knees should be slightly flexed, and not extended by a restraining strap. The conscious patient tends to draw up the legs, flex the hips and knees, and straighten out the lumbar curve so that the full length of the spine rests on the table (thus preventing backache). If the knees are kept flexed, there is some relaxation of the anterior abdominal wall muscles, thus necessitating less retraction and intra-abdominal packing.

If the Trendelenburg position is used, it should not be employed until the peritoneum has been opened (to avoid stretching a tightly adherent loop of bowel or injuring a tense cyst), and the legs should not be flexed sharply over the turned-down end of the table, as this increases circulatory strain.

The unconscious patient should have his position changed very slowly and carefully. This is especially true if another surgical procedure is contemplated, which requires the adoption of a different position.

The effect of the vagus nerve as a brake upon the heart is lost after *atropine* is given, and its *preoperative use is questionable*.

Instead of using a rigid lift for gallbladder or kidney operations, to force the patient into positions which the conscious patient could not endure for longer than a minute, an inflatable rubber bag may be used, which is connected to a pump or compressed air supply.

Overdoses of sedative drugs (morphine or the barbiturates) can kill a patient from anoxia just as surely as complete obstruction to respiration.

Do not handicap the patient's respirations, post-operatively, by tight binders or restrictive splinting of the chest or abdomen with adhesive tape.

The cyanosis of anesthetic overdose is associated with small, shallow respirations. The cyanosis of obstruction is accompanied by wide, struggling excursions.

The effort to secure too-great relaxation by depth of anesthesia alone is dangerous; the addition of regional or local anesthesia is generally helpful, and the advantage of position must be taken. For instance, lateral tilting of the table may make an otherwise difficult appendectomy easy.

**West. J. Surg., Ob. & Gynec.*, Dec., 1939.

Complete relaxation, in some patients, is not possible without grave danger.

By remembering safeguards, we may avoid the tragedy of having the patient's real fight begin only after the operation is over.

T. F. MULLEN, M.D.

San Francisco, Calif.

Discussion

Dr. Thomas Joyce (Portland, Oregon): I do not know of any better way to teach a young surgeon gentleness than to make him perform much surgery under local anesthesia. Here he has to be gentle, because the patient is awake, and it is good training. Often one will see a surgeon who wants to stretch a wound, put in his hands and pull.

Dr. Park Willis (Seattle): There should be a thermometer in every basin from which sponges are wrung out in the operating room. Cold sponges result in operative shock; very hot sponges result in peritoneal injury and subsequent adhesions.

Dr. Alson Kilgore (San Francisco): Sponges should always be soaked in physiologic saline solution, rather than water. Thus there is less tendency for them to adhere to the peritoneal surfaces. The best plan of all is to keep all packs out of the patient's abdomen.

Dr. Dexter Richards (Oakland, California): Ulnar paralysis may occur five or six days post-operatively, due to the pressure of the arm on the bed, rather than due to pressure during the operation.

Diet in Pregnancy

ALL foods that are good for a baby are good for a pregnant woman. Her diet should contain *everything* that the fetus needs for its development. Since iodine, thyroid, calcium, and vitamin C (and perhaps other vitamins) are often deficient, they should be added routinely; also a *balanced ration* of mineral salts.—FRANK WRIGHT, M.D., F.A.C.P., Chicago, Ill.

Diagnosis and Treatment of Rheumatism

RHEUMATISM may be defined as a disease giving rise to severe or even agonizing pain in the soft tissues covering the body, or in the joints, and leading to a restriction of movements.

Symptoms: Severe, agonizing, or dull pains, occurring in attacks, aggravated by contraction and relieved by relaxation of the affected muscle or muscles; numbness, and "pins-and-needles" sensation, mostly referred to the wrist and fingers, or to the foot and toes (sometimes, this is the only symptom complained of); and giving way of the knee when walking, and dropping things from one's hand.

Signs: The pain often appears at a distance from its causative point in muscle or tendon. The myalgic spot is often exquisitely tender (the patient winces or "jumps" when it is pressed upon), and corresponds to an anatomic point—the origin, insertion, or course of a muscle or tendon. Pressure may cause the same type of pain of which the pa-

tient complained; and often this point is harder than the surrounding tissue, and well-defined nodules may be felt.

Treatment: Small doses of phenobarbital— $\frac{1}{2}$ gr. (32 mg.) three times daily are prescribed, along with green vegetables, fresh fruits, cheese, and milk, and salt is excluded from the diet. Infrared rays may be applied to the myalgic area (*not* to the area complained of as being painful), followed by massage. Procaine may be injected into the myalgic areas.—M. GUTSTEIN, M.D., in *Brit. J. Phys. Med.*, Mar., 1940.

Sulfanilamide Locally in Wounds

SULFANILAMIDE may be applied locally in incisions where one has reason to fear the development of infection, such as operations involving tissues which previously have been infected and in which the infection apparently has disappeared (osteomyelitis). Where amputation has been done for gangrene and infection, I have used sulfanilamide in the wound (sutured tightly), and obtained primary healing.

In large open wounds, with extensive loss of soft tissue, which it is impossible to close even by sliding the margins, I have cleaned the surface, removed obviously devitalized tissue, and sprinkled the surface with sulfanilamide crystals, covered this with a thick layer of vaseline gauze, and then immobilized the extremity in a plaster cast. This procedure has decreased infection in these wounds.

The local implantation of sulfanilamide crystals in **compound fractures** lessens the danger of infection and does not perceptibly interfere with the union of soft tissues or bone. The wound must be debrided in the usual way and all grossly contaminated and infected tissue excised. This must be done before infection has gained a foothold, preferably within 12 hours after the injury. After debridement and reduction of the fracture, the skin and subcutaneous tissues are sutured with a single layer of silk-worm-gut sutures, *without drainage* (to insure retention of the serum, which is saturated with sulfanilamide). — J. A. KEY, M.D., in *South. M. J.*, May, 1940.

[The most dramatic effect of sulfanilamide or Neoprontosil is its use in draining incisions after operation for perforated appendicitis. Within eight hours after implanting Neoprontosil tablets in an odorous wound draining much purulent material, the familiar red color appeared in the urine and the amount of drainage was markedly decreased.—R. L. G.]

Treatment of Gastritis

By using the gastroscope, I have followed the course of cases of gastritis over a period of some years. Although I have seen improvement of the more acute manifestations, such as ulceration, erosion, hemorrhagic areas, and edema, I have not seen any permanent change in the fundamental mucosal disease whether atrophic or hypertrophic.

Treatment: Patients with the hypertrophic forms of gastritis do best on an "ulcer" type of regimen, with the use of kaolin, colloidal aluminum hydroxide, and calcium preparations. Some have improved symptomatically when given bile salts. Patients

*Colloidal Iron Compound (Hille) is an excellent mineral salt preparation.—Ed.

with atrophic and superficial forms are given a bland diet, hot water with or without salt, and hydrochloric acid with meals. Vitamins B and C are supplied, parenterally or orally. Hypochromic (secondary) anemia is treated with iron and vitamin B; pernicious anemia, with liver extract.—J. B. CAREY, M.D., in *Am. J. Digest Dis.*, Apr., 1940.

Study of the Breast

PALPATION: The hand is placed, flat, over the breast and rotary compression applied through it against the chest wall, with the patient lying down.

Abnormal masses may be felt to roll against the hand.* A finely nodular induration, vaguely palpable to the flat palm, often multiple and bilateral, suggests chronic cystic mastitis. Single or multiple, sharply circumscribed, freely movable masses, with no axillary node enlargement, suggest fibro-adenomas. A single, firm or hard mass suggests carcinoma.

Transillumination: The penetration of light through the tissues decreases progressively in the following general order: Air, clear fluid, fat, cloudy fluid, cellular and fibrous tissue, and blood. The periphery of the breast, being composed of fat, is decidedly translucent. The parenchymatous glandular portion of the breast is more opaque and casts an indefinite shadow, which varies in density with the physiologic state of the breast. Blood vessels stand out in bold relief, as dark lines, which can be obliterated by local pressure.

Transillumination is of value in diagnosing serous cysts which allow light to penetrate readily, as does a hydrocele, and intraductal hemorrhage due to a papilloma. Papillomas cast no shadow, but can often be apprehended and located by the associated hemorrhage and retention of blood in the ducts. A dark, dense, persistent shadow is then present. An infiltrating carcinoma shows a poorly-delimited, dense shadow, merging with the matrix of the breast.—HOWARD B. HUNT, M.D., in *Radiol.*, Dec., 1939.

Surgery in Children

THE major surgical tragedy occurring in infants under the age of two years is the *sudden occurrence of pain and shock that signifies an acute intussusception*. The pain causes the infant to double up, throw itself across its mother's lap or on its stomach, or assume the knee-chest position, if unable to walk. Pressure on the abdomen is desired by the youngster. The pain comes in *attacks*, which last a minute or two and recur at 3- to 15-minute intervals. Blood and mucus are not passed until 6 hours after intussusception has occurred, but may be found on the finger used for rectal examination or on a long applicator passed into the rectum.

Diagnosis may be made on clinical findings. If confirmation is desired, a flat x-ray plate may reveal the location of the lesion, and a barium enema will demonstrate the typical cupping defect. The abdomen should be opened as promptly as possible and the intussusception *milked down*, not pulled out. If completely irreducible, perform a lateral anastomosis.

Appendicitis in infants cannot be diagnosed. One

*Gland substance cannot be felt with the flat of the hand, so this is an important sign.—Ed.

must guess, and perform a laparotomy, during which peritonitis should be looked for. Localized tenderness is the most significant finding in appendicitis in children; generalized tenderness, early in the course of an abdominal complaint, usually signifies dysentery.

The frequently-repeated injection of 50 cc. of whole blood is often effective in stopping bleeding in a *hemophiliac* patient.

An abdominal incision, in an infant or young child, is healed in five days, if no infection is present. There is some tendency to evisceration after an intussusception operation. The use of vitamin C will prevent this complication.

OSWALD S. WYATT, M.D.

Minneapolis, Minn.

Chronic Bronchitis and Tuberculosis in the Aged

PRACTICALLY every person who has reached the age of 60 has been exposed to and invaded by, and has reacted to the tubercle bacillus, as shown by the high proportion of tuberculin-positive reactions. *One-eighth of all cases of tuberculosis are to be found in the old-age group.* Ninety-five (95) percent of such persons have a *chronic cough*; 69 percent have a positive sputum; and 87 percent produce sputum.

The physician is too often satisfied with the diagnosis of "chronic bronchitis" and senile cachexia. The triad of sputum study, tuberculin test, and a roentgen-ray film will furnish sufficient evidence to rule out that diagnosis. The tuberculous patient does not have high fever, rapid weight loss, and rapid decline. He is tired, thin, coughing, and weak. —J. T. FREEMAN, M.D., in *Pennsylvania M. J.*, Mar., 1940.

Psoriasis*

THE patient with psoriasis must persist in treatment for an adequate length of time. If patients continue treatment they are much more apt to avoid the severely crusted, fissured, and indurated lesions seen in connection with irregular therapy. The re-appearance of even a few or relatively mild lesions should be the signal for immediate treatment by local applications.

Psoriasis of the scalp: A 20-percent strength of ammoniated mercury in rose water ointment may be safely applied to the scalp and borderline lesions of the face. The ointment is applied by parting the hair in various areas. The patient is told to wash it out in from 12 to 24 hours. This increases cleanliness, and unquestionably *soap and water help a great deal in psoriasis*. The ointment may be continued, at from two- to four-week intervals, after all lesions have disappeared, to prevent recurrences. A 1-percent solution of salicylic acid in 50-percent alcohol is applied each night between applications of the ointment.

Wet dressings, followed by the frequent use of soap and water, are effective for the *intertriginous areas* (breast, axilla, perineum, scrotum, penis). A thorough lathering is desirable, and I feel that tar soap is better. The patient may wash thoroughly with a well-soaped wash cloth, in the perineum and groin, morning and evening. Crude coal tar,

*N. Y. S. J. M., Jan. 15, 1940.

ammoniated mercury, or sulphur ointment may be applied at night, and immediately wiped off.

Palms and soles: Five percent of salicylic acid in 5-percent crude coal tar ointment, worked into the palms or soles and then wiped off, is the most effective local treatment. It is best applied at night and, in obstinate cases, it is to be used following wet dressings. Stimulating applications should be applied to the patches, *not* to the unaffected parts. *Pressure always aggravates psoriasis.* These patients should wear gloves and avoid all irritation, if possible.

Nails: The psoriatic nail should be softened by applications of salicylic acid or ammoniated mercury, applied overnight under finger cots.

Internal treatment: A very striking result may follow the artificial production of fever (foreign protein injections; blood injections), but the improvement is usually temporary. Weight reduction is of value in obese patients, especially if the psoriasis is intertriginous. Milk seems to be of value in some cases.

H. H. BAUCKUS, M.D.

Buffalo, New York.



Autonomic Imbalance and Borderline Thyrotoxicosis

PRIMARY thyrotoxicosis has two main components: thyroid overactivity or dysfunction, and instability of the autonomic nervous system. Clinical observation suggests that the proportion of each component varies in individual cases. The larger the thyroid element, the greater the benefit obtained by thyroidectomy or roentgen-ray therapy and the fewer the subsequent residual signs. When nervous instability predominates, less relief is obtained by surgery or x-rays, and the symptoms may be little changed or even made worse by the addition of hypothyroidism. Medical treatment often brings about improvement.

These cases have been termed "autonomic imbalance," "neurocirculatory asthenia," "Basedow's disease without thyrotoxicosis," or "hyperthyroidism with a normal basal metabolic rate." In such cases *the pulse rate slows significantly during sleep*, while in hyperthyroidism of "goiter" origin, tachycardia is not decreased by rest in bed. Psychotherapy and rearranging of work are the mainstays of treatment.—L. MARTIN, M.R.C.P., in *Proc. Royal Soc. Med.*, Sept., 1939.



Urinary Antiseptics

TO treat infection in the urinary tract rationally, a proper diagnosis is necessary (the type of infection must be known and any obstruction along the urinary tract must be relieved). Free drainage of the affected part is more important than antiseptics. The ureteral catheter is a useful adjunct for this purpose.

Urinary antiseptics are effective only when the affected kidney still possesses good function. If both organs are infected and their function is poor, serious results may occur from retained antiseptics and acidifying drugs in the blood stream.

Fluids must be restricted while practically all antiseptics are being given, as they become diluted and lose their effectiveness if given with large amounts of water. As fluids should not be restricted

during an acute infection, urinary antiseptics should be used only in subacute or chronic urinary infections.—F. J. PARMENTER, M.D., in *N.Y.S.J. Med.*, Oct. 1, 1939.



"Lung Cripples"*

THERE has been a great increase in the number of "lung cripples" in recent decades. This is in part due to the fact that people live longer and are therefore more subject to insults to the bronchial tree. The modern method of living (changes from hot, dry, indoor air to cold, wet, outdoor air) damages the bronchi. Continuous irritation of the bronchial mucosa may lead either to edema and consequent constriction of the bronchial lumen or, if a destructive process takes place in the submucosa, the bronchi may be widened. In either event, the action of the cilia is made less effective, if they are not entirely destroyed. The bronchi which are unable to cleanse themselves become vulnerable to chronic infections. *Much has been written about atonic intestines, but nothing about atonic bronchi—a much more frequent condition.* It is possible that excessive sympathetic stimulation or vagus inhibition may play a part in causing atonic bronchi, just as excessive vagus stimulation causes bronchial spasm.

Diagnosis: Recognition of pathologic changes in the bronchi can be accomplished easily and without discomfort by instilling iodized oil or Lipiodol. No special apparatus or anesthetic is required. One must look for early states of bronchial disease, rather than the huge dilatations of bronchiectasis.

A careful study of the sputum is essential in all cases of chronic bronchial disorders. Eosinophile cells, if found in large numbers, are as pathognomonic of an allergic condition as the acid-fast bacillus is of tuberculosis. If the disorder is purely allergic, elimination of the offending factors may bring about remarkable improvement. Infection of the bronchi is usually mixed, but at times a relatively pure growth of a single organism may be recovered. An asthmatic-like bronchitis may be fed by or associated with infection of the sinuses. Roentgen-ray films will help in diagnosing sinusitis.

Treatment: When the ciliary action and bronchial peristalsis are not adequate to clear the lungs, one should take advantage of the force of gravity by instructing the patient to practice postural drain (head-and-chest-down position) frequently.

Potassium iodide and ammonium chloride are often of value. Instillation of iodized oil may help in loosening thick or tenacious sputum. Oil instillations are continued, if they definitely help the patient. Deep-breathing exercises aid in strengthening the muscles of respiration and keep parts of the lung aerated which may collect secretion and become atelectatic.

If the patient is sensitive to temperature changes, a tolerance may be gained through daily contrast baths, changing from hot to cold, and vice versa. As individuals grow older, they become more fragile, their tissues will stand less strain, and they may not tolerate severe atmospheric changes so well. These persons often improve after migrating to arid desert regions.

E. F. PEARSON, M.D.

Springfield, Ill.

**Miss. V. Med. J.*, Sept., 1939.

Diagnostic Pointers



Painful Shoulders

● Painful shoulders may be roughly grouped as to possible causes. If pendulum movements of the arm are not limited, the lesion is not within the joint, and the site of the pain will often give a clue to its nature (fibrositis, muscle lesions). When pendulum movements show no limitation, but also have no appreciable effect on the pain, one may expect to find the cause of the pain outside the shoulder joint (heart, lung, or spine).

When movement is limited in all directions equally, some form of arthritis is to be expected; when it is limited in only one direction, we should look for lesions of the supraspinatus tendon, adhesions, and calcifying (subacromial) bursitis. The first and last of these are commonly associated and seem almost always to follow trauma. Adhesions have a much greater range of causation, including many forms of strained posture, exposure, and others.—*Med. World* (Lond.), Nov. 15, 1939.

Eye Jerk Test For Schizophrenia

● After irrigating the ear with water, most people will develop nystagmus or "eye jerks," which recur rather rapidly. In schizophrenic patients, these jerks are so much slower than the normal rate as to furnish a test of diagnostic value and for keeping an objective record of progress under treatment. This is the first clear-cut physical difference between schizophrenic and normal individuals so far discovered. — DRS. ANDRAS ANGVAL and NATHAN BLACKMAN, before American Psychiatric Association (see *Science News Letter*, June 8, 1940, page 355).

Routine Tuberculin Testing

● The general practitioner should do routine tuberculin testing among his children patients, as the tubercle bacillus usually enters the body during childhood. The test is so sensitive that it becomes positive within three weeks after the bacilli enter the body. The change from a negative to a positive test should be watched with suspicion, and careful x-ray follow-ups assured. — E. MAYER, M.D., in *Dis. Chest*, Apr., 1940.

Cancer of the Colon

● In a group of patients in adult life, in whom acute intestinal obstruction is diagnosed, if one can determine that the lesion is limited to the large intestine, and exclude the possibility of a strangulated hernia, the chances are between 80 and 90 percent in favor of the lesion causing the stenosis being a carcinoma of the left half of the colon. — F. W. RANKIN, M.D., and A. S. GRAHAM, M.D., in "Cancer of the Colon" (Charles C Thomas, Publisher).

Hemorrhage from the Rectum in Children

● Slight hemorrhage from the rectum occurs with papilloma, foreign body, dysentery, intussusception, scurvy, Henoch's purpura, and blood dyscrasias; larger amounts of bleeding should make one think of gastric or duodenal ulcer, especially if the stools are tarry. Copious, bright-red blood should arouse suspicion of a bleeding Meckel's diverticulum, especially if the blood clots and is, at times, bright-red, and at others, dark. If such hemorrhage persists (follow it by frequent blood-cell counts, as only part of the blood may be passed), the diverticulum must be removed by operation.—J. BRENNE-MAN, M.D., in *J.A.M.A.*, Mar. 16, 1940.

Kidney Infections in Children

● Babies or children who have unexplained attacks of fever and chills, painful urination, nocturia, or prolonged enuresis should be examined carefully for urinary-tract obstruction, with added infection. Do not hesitate to pass a catheter to obtain a urine specimen.—J. E. GLENN, M.D., in *South. M. J.*, Apr., 1940.

Chronic Appendicitis

● If a patient has had one or more attacks of abdominal pain around the umbilicus or in the right lower quadrant—pain severe enough to put him to bed, to keep him awake at night, and to cause his physician to diagnose or suspect acute appendicitis—the diagnosis of chronic appendicitis may well be indulged. In most of the cases, in which, after one or more such attacks, a young man or woman suffers with indigestion, nausea, anorexia, abdominal discomfort, toxic feelings, occasional cramps, and a loss of energy and joy of life, appendectomy will work a cure.—WALTER C. ALVAREZ, M.D., in *J.A.M.A.*, Apr. 6, 1940.

Hypothyroidism, Sterility, and Abortion

● We feel justified in concluding that hypothyroidism of mild or moderate degree is a fairly common complication of pregnancy. The severer types, particularly when associated with the same condition in the husband, will be found to be productive of sterility. It therefore appears logical to determine the basal metabolic rate, as a routine, in early pregnancy, and to institute proper treatment when the rate is found to be low. We believe that by so doing we have been able to carry many patients to term who might otherwise have aborted because of the hypothyroidism.—DRS. E. L. KING and J. S. HERRING in *J.A.M.A.*, Sept. 30, 1939.

Thumbnail Therapeutics



Liver in Pernicious Anemia

● Most patients with pernicious anemia cannot be satisfactorily treated by the use of massive doses of liver extract, given at intervals of several months. The optimum interval between injections, for most patients, is from one to four weeks. Certain patients will relapse if they are untreated for such a short period as two months. — M. B. STRAUSS, M.D., in *J. A. M. A.*, Apr. 6, 1940.

Prevention of Nephritis

● Chronic nephritis often begins following a mild, acute upper respiratory infection. Every patient with such an infection should have a careful urinalysis within a short time following the illness. The presence of a small amount of albumin or a few blood cells in the urine is a sign of kidney involvement. Rest in bed until these danger signs have disappeared may prevent the development of a chronic nephritis. — LAWRENCE SMITH, M.D., in "Cardiovascular-Renal Disease" (D. Appleton-Century Co., 1940).

Sulfanilamide and Wound Healing

● Sulfanilamide has an inhibitory effect on wound healing, particularly in clean wounds. Indiscriminate use of the drug may obscure the diagnosis or result in a masked clinical picture of mastoid involvement. — *Med. World*, Oct., 1939.

Pyuria Without Bacteria

● Pus in the urine, without bacteria, should suggest tuberculosis first. Sterile pyuria is resistant to ordinary forms of treatment, but clears up promptly when neoarsphenamine is given intravenously. A dose of 0.3 Gm. should be administered each week for one month. — T. MOORE, F.R.C.S., in *Brit. M. J.*, Feb. 3, 1940.

Appendicostomy in Colitis

● The best treatment for severe ulcerative colitis is appendicostomy, and I have seen many really desperate cases recover. Unfortunately, the surgeon is too often called in only when the patient is seriously ill. The operation may be performed under local anesthesia with very little risk. — G. F. CUSHMAN, M.D., in *West. J. Surg., Obst. & Gynec.*, Dec., 1939.

Pertussis Vaccine

● Pertussis vaccine (Sauer's type) protected 95.4 percent of a group of 312 children from whooping cough, over a period of five years. It is so effective that it should be given routinely to all babies over the age of six months. — F. T. MITCHELL, M.D., in *South. M. J.*, Apr., 1940.

Withdrawing Solutions from Bulk Vials

● In withdrawing solutions for parenteral injection, from bulk vials provided with perforable rubber stoppers, such as are now frequently used, be sure to draw back the plunger of the syringe to a point representing the size of the dose to be administered and, after piercing the stopper with the needle, inject the air contained in the syringe before withdrawing the plunger to take up the required dose. If this maneuver is omitted, especially when the first dose is used, the negative pressure produced within the vial by the withdrawal of the plunger of the syringe may prevent the liquid from entering the barrel. — GEORGE B. LAKE, M.D.



"Dry Treatment" of the Newborn

● In view of the favorable reports in the pediatric literature and the recent experience at the St. Louis Maternity Hospital, it was suggested that a "hands-off policy" (leaving the vernix caseosa in place) is the best method of care of the newborn. One thousand seven hundred and thirty-four (1,734) infants were treated in this manner, with a negligible number of irritations and only two pustules. — J. C. JAUDON, A.B., M.D., in *Miss. V. Med. J.*, Sept., 1939.

Eczema

● In treating eczema, success depends upon exclusion of air, cold, and soap and water from the skin, no matter what other treatment may be used. — A. F. HOLDING, M.D., in *N.Y.S.J.M.*, Jan. 15, 1940.

Tumors of the Vulva

● Benign vulvar tumors (papillomas, sebaceous cysts, pigmented moles, fibromas, adenomas of the sweat glands) frequently become malignant at a later period in the woman's life. They should be removed, to prevent malignant degeneration. The treatment of vulvar cancer is surgical—radical removal of the vulva and inguinal nodes. — C. E. FOLSOME, M.D., in *J. A. M. A.*, Apr. 20, 1940.

Potassium Chloride in Hay Fever and Asthma

● A number of reports have indicated that potassium chloride, given by mouth, benefits some cases of hay fever and asthma, though not all. I gave potassium chloride, in doses ranging from 1 to 5 grains, three times daily to 27 patients. In general, the results were satisfactory, especially in children suffering from hay fever with asthma, although the mechanism of the effect produced by potassium chloride in the body is not thoroughly understood. — A. F. ABT, M.D., in *A. J. Med. Sc.*, Aug., 1939.



THE DOCTOR'S STUDY

*Pleasure changes existence to living, and nothing
is so pleasure-giving as books.—*

BEN ABRAMSON.

Injection Treatment

Riddle

INJECTION TREATMENT OF Hernia, Hydrocele, Ganglion, Hemorrhoids, Prostate Gland, Angioma, Varicocele, Varicose Veins, Bursae, and Joints. By PENN RIDDLE, B.S., M.D., F.A.C.S., Assistant Professor of Clinical and Operative Surgery, Baylor University, College of Medicine; Director of the Varicose Vein Clinic, Parkland Hospital, Dallas, Texas. 153 Illustrations. Philadelphia and London: W. B. Saunders Company. 1940. Price, \$5.50.

THIS is the first commonsense book yet to appear on injection treatments. The author, a surgeon himself, has not the prejudice of the poorly trained or untrained surgeon against the use of surgical procedures when they are needed. He has the best interests of the patient at heart and advises one method of treatment or the other according to the results desired. He does not feel the need to "sell" the profession on the injection method with stories of glittering successes and quotations of improbably high percentages of cures.

The book is of value to the average general practitioner and surgeon, because it encompasses the material that can be learned and used by one man. "The same general principles involved in sclerosing lesions in one part of the body are often applicable to lesions in other parts of the body, but the injection method of treatment is not applicable to all cases, and, in certain cases, will not give as good results as surgical treatment. In properly selected cases, the results of injection treatment are striking, and the method often can be combined with surgery to produce results which are superior to those of either method alone."

The author describes the one best method, thus avoiding the usual redundant descriptions of various techniques.

Obstetrics and Gynecology

Adair

OBSTETRICS AND GYNECOLOGY. By the University of Chicago Departmental Staff, and other Contributors. Edited by FRED L. ADAIR, M.D., F.A.C.S., Mary Campau Ryerson Professor and Chairman of the Department of Obstetrics, University of Chicago; Chief of Service, Chicago Lying-in Hospital, Chicago. Two Octavo Volumes; 2,031 Pages; 663 Engravings, 25 Plates. Philadelphia: Lea and Febiger. 1940. Price, \$20.00.

THIS combined text is an expression of the current trend toward combining the two medical specialties having to do with the anatomy and

function of the female genitalia. It is a logical grouping, inasmuch as gynecology deals largely with the after effects of obstetric procedures.

The chapter headings indicate the broad view taken in this work: Basic biologic relationships of the human female; approach to communal and individual problems; life cycle of the human female; normal and abnormal conditions of the non-pregnant and pregnant woman; normal and abnormal conditions of the parturient woman; normal and abnormal conditions of the postpartum woman and of the newborn infant; diseases of the female genitalia; medical and surgical specialties in relation to obstetrics and gynecology; and obstetric and gynecologic operative procedures.

Principles rather than details are stressed and no detailed descriptions of multitudinous operative technics are given, but rather some of the more commonly indicated and important types of operations. One technic is described well and briefly, for each type. The operative sketches are clear and well drawn.

Because of the varying viewpoints of sixty biologists and physicians (none of whom is specified other than in the list printed in the opening pages), the work has a stimulating effect upon the mind of the physician and student. Modern views on physiology, biochemistry, and clinical aspects are woven into a homogenous whole.

Physical Signs in Clinical Surgery

Bailey

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By HAMILTON BAILEY, F.R.C.S. (Eng.), Surgeon, Royal Northern Hospital, London; Surgeon and Urologist, Essex County Council; External Examiner in Surgery, University of Bristol, etc. Seventh Edition; 337 Illustrations, Some in Color. Baltimore: The Williams and Wilkins Company. 1940. Price, \$6.50.

A HOME course in diagnosis would be a better title for this volume. Beautifully clear illustrations and sketches depict signs to be searched for in making a diagnosis. The photographs show exactly how to find important signs; the accompanying text discusses their importance.

"Is it a hernia or a hydrocele?" "Does this mass expand or does it merely pulsate?" "Has pus formed?" "Are the nearby glands enlarged?" This kind of questions, which come up in every-day general and surgical practice, are fully answered. The young physician is shown how to best feel for enlarged nodes in various areas of the body; how to detect fluctuation and expansion; how to deter-

mine injuries around the shoulder. The older physician can review, in a moment, the various methods of examination by seeing them, just as well as if he were visiting a clinic.

Bailey is one of the few medical authors whom one can read over and over again without losing interest and with increasing knowledge.



Orthopedic Operations

Steindler

ORTHOPEDIC OPERATIONS: Indications, Technic, End-Results. By ARTHUR STEINDLER, M.D., F.A.C.S., Professor of Orthopedic Surgery, Iowa State University, Iowa City, Iowa. 322 Original Illustrations. Springfield: Charles C Thomas, Publisher. 1940. Price, \$10.00.

THIS is a complete reference book for the general and orthopedic surgeon. Its author, who has at his command all the orthopedic material of a large state university, has made it practical by (1) carefully listing end-results obtained by himself and other orthopedists; (2) eliminating the many variations of each surgical technic; and (3) furnishing descriptions and illustrations of those cases which will be benefited by orthopedic procedures. Steindler often suggests other procedures that may be carried out before resorting to surgery. In treating non-union of the tibia, for example, he states that, if there is no definite union at the end of 10 weeks, union may be considered delayed, but that partial weight bearing may stimulate bone growth and that bone grafting may well be delayed until union definitely does not follow the stimulation.

This book is a wise counsellor for the less experienced surgeon. It is far more valuable than the usual compilation of various types of operations, presented without any appraisal of when to use them or how much may be expected from them.



Dermatology

Wright

MANUAL OF DERMATOLOGY. By CARROLL S. WRIGHT, M.D., B.S., Professor of Dermatology and Syphilology, Temple University School of Medicine; Associate Professor of Dermatology and Syphilology, Graduate School of Medicine, University of Pennsylvania, etc. Philadelphia: The Blakiston Company. 1940. Price, \$4.00.

THE medical student and general practitioner of today are fortunate in having such an easily usable guide through the mystifying classifications of dermatology. Wright discusses only the common conditions seen in general practice, and makes no attempt to cover the rare diseases. He is to be congratulated on the excellence of the photographs and their reproduction.

Unlike many small monographs, much space is devoted to treatment. Definite instructions are given as to methods of therapy and results to be expected.

The manual is up to date, with the exception of omission of pityriasis rubra pilaris from the list of diseases due to vitamin A deficiency (although cod-liver oil and a rich vitamin diet are suggested as treatment).



The New International Clinics

Piersol

THE NEW INTERNATIONAL CLINICS. Edited by GEORGE MORRIS PIERSOL, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Montreal, New York; J. B. Lippincott Company, Vol. 1; New Series Three: 1940. Price, \$3.00 current year; \$5.00 back years.

THE general practitioner will find much to interest him in this issue of the New Clinics. Mosenthal reviews the recent advances in the study and treatment of kidney disease of mid-life, with emphasis upon the part played by "minor" infections. A simple operation for the cure of intractable corns between the fourth and fifth toes is described. Pelouze presents his views on gonorrhea, the disease and its treatment.

Stokes gives a practical paper on pruritus ani (give liberal doses of hydrochloric acid and reduce the carbohydrate in the diet; decrease roughage; stop alcohol), which, for the first time, focuses attention upon those cases not associated with visible skin disease. Such cases are usually not discussed in proctology texts, which confine their remarks to advanced and chronic lesions.

The surgeon will find much stimulating material. The use of the Miller-Abbott tube permits one-stage resection of the small or large bowel. Electrocoagulation of rectal and sigmoidal cancers is of marked palliative value, and is also being used curatively in early cases.

The review of recent progress in vitamin therapy, by Cantarow, will save the physician much time in reading various articles.



X-Ray Study of the Alimentary Tract

Buckstein

CLINICAL ROENTGENOLOGY OF THE ALIMENTARY TRACT. By JACOB BUCKSTEIN, M.D., Visiting Roentgenologist, Alimentary Tract Division, Bellevue Hospital, New York City; Consultant in Gastroenterology, Central Islip Hospital. 525 Original Illustrations. Philadelphia and London: W. B. Saunders Company. 1940. Price, \$10.00.

THE first requisite of a roentgen-ray text is a large number of well selected, well printed, teaching illustrations, made from roentgenograms. Buckstein's book is printed throughout on glossy paper, which permits ideal reproduction of his films. Mucosal illustrations, especially, are beautifully clear.

The second requisite of such a book is the clinical aspect. The full-time roentgenologist tends to spend too much time on the unusual, the bizarre. Buckstein makes his book practical by emphasizing important diagnostic points and giving illustrative case histories, complete with clinical facts.

The third requisite is the proper mention of points on technic, for the benefit of those who have to scan other literature than the radiology.

The fourth requisite is sanity of approach. The roentgenologist who believes in the infallibility of his tool is a menace. He must realize what portion of the clinical picture can best be developed with the x-rays, and what portions cannot.

On all these counts, Buckstein's book passes with a high rating. Every physician and surgeon will do well to read his discussion on "chronic appendicitis," and its roentgen-ray verification.



Biochemistry

Parsons

FUNDAMENTALS OF BIOCHEMISTRY. By T. R. PARSONS, B.Sc. (LOND.), M.A. (CANTAB.), Sidney Sussex College, Cambridge. Sixth Edition. Baltimore: William Wood and Company. 1939. Price, \$3.00.

THE author presents in continuous form, the more important generally accepted principles which have been derived from the study of the chemical changes occurring in the human body. It is intended for those who have a previous knowledge of chemistry and physics (although that knowledge need not be extensive), for those who wish to review physiologic chemistry (physicians will find it interesting), and for medical students. Six editions have appeared since 1925, indicating that the book has filled a definite need.



Arthritis

Comroe

ARTHRITIS, and Allied Conditions. By BERNARD I. COMROE, A.B., M.D., F.A.C.P., Instructor in Medicine, University of Pennsylvania; Ward Physician, Hospital of the University of Pennsylvania. 752 Pages; 200 Engravings. Philadelphia: Lea and Febiger. 1940. Price, \$8.50.

THIS is an ideal book for the physician who has been intending to look up the new work on arthritis. The differential diagnosis, prognosis, and therapy of arthritis and similar conditions are given in a direct, to-the-point manner. New meth-

ods of treatment are discussed, their rationale considered, and the results obtained in the author's practice and in that of others presented.

Physical therapy, considered by the author to include some of the most important forms of treatment, is discussed fully, including baths, packs, paraffin, underwater exercises, baking, heat lamps, ultraviolet and infrared radiation, short- and long-wave diathermy, iontophoresis, exercises, massage, etc. Discussions of diet, foci of infection, splinting of joints, vaccine therapy, transfusions, iron treatment, the use of vitamins, sulphur, gold, fever, chaulmoogra oil, etc. indicate the completeness of the sections on treatment.

Sciatica, painful shoulder, fibrositis (myositis), gout, painful feet, backache, and tumors of the joints and tendon sheaths, are also presented.

Proctoscopic Examination

Streicher

PROCTOSCOPIC EXAMINATION AND THE DIAGNOSIS AND TREATMENT OF DIARRHEAS. By M. H. STREICHER, M.S., M.D., Assistant Professor of Medicine, University of Illinois College of Medicine, Research and Educational Hospital and Department of Surgery, Grant Hospital of Chicago, Springfield, Illinois, and Baltimore, Maryland; Charles C Thomas, Publisher. 1939. Price, \$3.00.

THE general practitioner will welcome this small volume. Dr. Streicher believes that the knee-chest position is perfectly suitable for proctoscopy and sigmoidoscopy and that the special examining table for rectal use (much advocated by proctologists) is unnecessary.

His instructions as to proper procedures to be carried out during, and indications for, proctoscopy are pertinent and brief. The etiologic classification of diarrheas, with emphasis on causes frequently forgotten (malignant tumors, achylia gastrica, high-fat diet, allergy, medicinal, nervous, proctitis, and others) reminds the physician to think of the significance of diarrhea before prescribing or dispensing his favorite medications. Many valuable pointers are given on the diagnosis and treatment of the various diarrheas.

The discussion and illustrations (roentgenologic and proctoscopic) of cancer of the rectum are good, although no mention is made of palliative electrocoagulation of inoperable rectal tumors.

Surgical Diagnosis

Power

SURGICAL DIAGNOSIS. By STEPHEN POWER, M.S., (LOND.), F.R.C.S. (ENG.), Assistant Surgeon, London Homoeopathic Hospital; Surgeon, Eltham Hospital, Baltimore; The Williams and Wilkins Company. 1939. Price, \$4.50.

THIS 216 page handbook covers the surgical diagnosis of the extremities, the spine, the various organs of the abdomen, fractures and dislocations, and genito-urinary lesions. It is written in a brief, practical style which renders it valuable as a guide to the medical student and intern, when first confronted with patients in the dispensary or hospital. The older physician or surgeon who has become a bit rusty on diagnostic points will find it easy and instructive reading.

The Microscope

Allen

THE MICROSCOPE. By R. M. ALLEN. New York: D. Van Nostrand Co. 1940. Price, \$3.00.

WITHIN the covers of this one book will be found all the facts necessary for the intelligent use of the microscope in medicine, industry, and other sciences. Various technical aspects and special instruments (metallurgical, biologic, research, chemical and petrographical, still ultra-microscope, ultraviolet microscope, universal microscope) are discussed. Illumination is considered from both the practical and theoretical aspects. The optical principles of the microscope, testing of microscope ob-

jectives, getting the most out of the microscope, and preparation of material for microscopical examination make up the remainder of the text. No one who uses the microscope extensively can fail to have his imagination aroused and his methods improved by a study of this book. The publishers have prepared a superb piece of printing.

Biological Products

Gershenfeld

BIOLOGICAL PRODUCTS. By LOUIS GERSHENFELD, F.D., B.Sc., Ph.M., Professor of Bacteriology and Hygiene and Director of the Bacteriology and Clinical Chemistry Laboratories at the Philadelphia College of Pharmacy and Science; Member, Sterile Products Advisory Board, U.S.P. XI., etc.; New York: Romaine Pierce Publishers, Inc. 1939. Price, \$4.00.

THIS volume is designed as an authoritative source of information on the history, preparation and manufacture, composition, therapeutic and prophylactic uses, preservation and standardization of the various biological products.

Nowhere else is much of this information so easily available. The physician will find all the data that he needs in determining what biological product is indicated for any particular patient. The laboratory worker and the student will find complete, classified facts on the laboratory aspects of these products. The far-sighted physician will read with interest of the newer preparations—antipertussis serum, antibrucella serum, anti-staphylococcus serum, tularemia antiserum, antityphoid serum, and cancer serum.

The author has gone to a tremendous amount of labor in collecting and briefing the significant advances in this field. At the same time, he has arranged the material so well that one can readily find information on any topic covered.

Hematologic Technic

Beck

LABORATORY MANUAL OF HEMATOLOGIC TECHNIC, Including Interpretations. By REGINA COOK BECK, M.A., M.D., Formerly Instructor in Pathology and Bacteriology at George Washington University Medical School; Head of the Department of Bacteriology, William and Mary College Extension, etc. Foreword by FRANK W. KONZELMANN, M.D., Professor of Clinical Pathology, Temple University, Philadelphia. Philadelphia and London: W. B. Saunders Co. 1938. Price, \$4.00.

THE intern, medical student or physician who wishes to perform his own blood examinations will find in this book a compact, complete, and definite set of instructions on technics that may be employed and instruments that are commonly used.

Our Sex Life

Kahn

OUR SEX LIFE: A Guide and Counsellor to Everyone. By FAITZ KAHN, M.D. Translated by GEORGE ROSEN, M.D. New York: Alfred A. Knopf. 1939. Price, \$6.00.

EVERY physician, regardless of his specialty, should know of sex, its joys, and its obligations. This book is, as its name implies, a complete guide to the problems and possibilities inherent in the physical structure of men and women. The intelligent patient may well read it, as Kahn has treated every aspect of sex and its impact upon life in a kindly, knowing way. The physician also will learn much from his broad knowledge.

Several diagrams illustrate the mechanics of erection, conception, love-stimulating zones in the woman, and pregnancy. These render the task of the physician easier when he endeavors to explain sexual matters to the patient.

The important matters of stimulation of desire before intercourse; painless defloration; proper enjoyment of sexual pleasure; instruction of youngsters—all these and many more are discussed. The book is neither prudish nor mechanical in its style of presentation.

In **MULTIPLE VENTRAL HERNIAS**

- where injections are preferred to surgery, effective results are secured by using

NEO-PLASMOID to proliferate tissue and QUINOCAINE for prolonged local anesthesia



NEO-PLASMOID

Painless, Non-Toxic, Efficient

A colloidal solution which, when injected, produces proliferation of healthy muscular tissue. Contains no easily disassociated phenol or other caustic; will not cause ulcers, sloughs, abscesses or brittle scar tissues. One 30 cc. vial, \$3.50.



QUINOCAINE

For Prolonged Anesthesia

Prepared in Aqueous Base, is non-toxic, injected hypodermically in several selected sites in the treatment area. In many cases produces a state of anesthesia effective for several days. Dispensed in 125 cc. serum vials at \$2.00 each.

Order today or write for literature

FARNSWORTH LABORATORIES

28 E. JACKSON BLVD.

CHICAGO, ILL.

C.M.S. 9-40

Please Mention "C.M.S." When Writing Advertisers